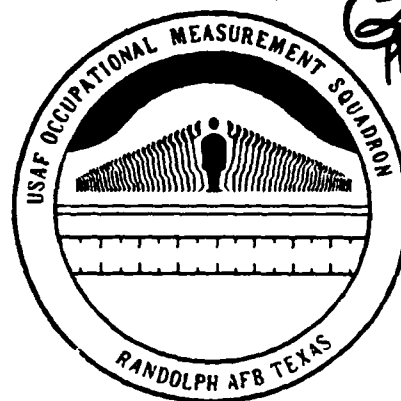




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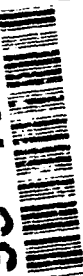
UNITED STATES  
AIR FORCE



# OCCUPATIONAL SURVEY REPORT

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AIRCREW EGRESS SYSTEMS CAREER LADDER

AFSC 454X2

AFPT 90-454-905

JUNE 1993

OCCUPATIONAL ANALYSIS PROGRAM  
USAF OCCUPATIONAL MEASUREMENT SQUADRON  
AIR TRAINING COMMAND  
RANDOLPH AFB, TEXAS 78150-5000

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## TABLE OF CONTENTS

	<u>PAGE NUMBERS</u>
PREFACE. . . . .	iv
SUMMARY OF RESULTS . . . . .	v
INTRODUCTION . . . . .	1
Background. . . . .	1
SURVEY METHODOLOGY . . . . .	1
Inventory Development . . . . .	1
Survey Administration . . . . .	2
Survey Sample . . . . .	3
Task Factor Administration. . . . .	3
SPECIALTY JOBS (Career Ladder Structure) . . . . .	5
Overview of Specialty Jobs. . . . .	6
Group Descriptions. . . . .	6
Comparisons of Specialty Jobs . . . . .	15
Comparison of Current Job Descriptions to Previous Survey Findings . . . . .	16
ANALYSIS OF DAFSC GROUPS . . . . .	18
Skill-Level Descriptions. . . . .	18
Summary . . . . .	24
ANALYSIS OF AFR 39-1 SPECIALTY DESCRIPTIONS. . . . .	24
TRAINING ANALYSIS. . . . .	24
First-Enlistment Personnel. . . . .	27
Training Emphasis and Task Difficulty Data. . . . .	27
Specialty Training Standard (STS) . . . . .	34
Plan of Instruction (POI) . . . . .	38
JOB SATISFACTION ANALYSIS. . . . .	41
SPECIAL ANALYSIS . . . . .	47
IMPLICATIONS . . . . .	48

TABLE OF CONTENTS  
(Tables, Figures, Appendices)

	<u>PAGE NUMBER</u>
TABLE 1 - COMMAND DISTRIBUTION OF 454X2 PERSONNEL . . . . .	4
TABLE 2 - PAYGRADE DISTRIBUTION OF SURVEY SAMPLE. . . . .	4
TABLE 3 - RELATIVE PERCENT TIME SPENT ON DUTIES BY SPECIALTY JOBS . .	8-9
TABLE 4 - SELECTED BACKGROUND DATA FOR SPECIALTY JOBS . . . . .	10-11
TABLE 5 - SPECIALTY JOB COMPARISONS BETWEEN CURRENT AND 1984 SURVEYS. . . . .	17
TABLE 6 - DISTRIBUTION OF DAFSC GROUP MEMBERS ACROSS SPECIALTY JOBS .	19
TABLE 7 - RELATIVE PERCENT TIME SPENT ON DUTIES BY DAFSC GROUPS . . .	20
TABLE 8 - REPRESENTATIVE TASKS PERFORMED BY 45432 PERSONNEL . . . . .	21
TABLE 9 - REPRESENTATIVE TASKS PERFORMED BY 45452 PERSONNEL . . . . .	22
TABLE 10 - TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSCs 45432 AND 45452 PERSONNEL (PERCENT MEMBERS PERFORMING) . . . . .	23
TABLE 11 - REPRESENTATIVE TASKS PERFORMED BY 45472 PERSONNEL . . . . .	25
TABLE 12 - TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSCs 45452 AND 45472 PERSONNEL (PERCENT MEMBERS PERFORMING) . . . . .	26
TABLE 13 - RELATIVE TIME SPENT ON DUTIES BY FIRST-ENLISTMENT PERSONNEL (N=97) . . . . .	28
TABLE 14 - REPRESENTATIVE TASKS PERFORMED BY 454X2 FIRST-ENLISTMENT PERSONNEL (N=97) . . . . .	30
TABLE 15 - AIRCRAFT ON WHICH EGRESS SYSTEMS ARE MAINTAINED BY 10 PERCENT OR MORE OF FIRST-ENLISTMENT PERSONNEL (N=97) . . . .	31
TABLE 16 - AEROSPACE GROUND EQUIPMENT (AGE) USED BY FIRST-ENLISTMENT PERSONNEL (N=97) . . . . .	31
TABLE 17 - SPECIAL TOOLS OR EQUIPMENT USED OR OPERATED BY 20 PERCENT OR MORE OF FIRST-ENLISTMENT PERSONNEL (N=97) . . . . .	32
TABLE 18 - TECHNICAL TASKS RATED HIGHEST IN TRAINING EMPHASIS (TE) . .	33
TABLE 19 - TASKS RATED HIGHEST IN DIFFICULTY . . . . .	35
TABLE 20 - EXAMPLES OF STS ELEMENTS REQUIRING REVIEW OF 3-SKILL LEVEL PROFICIENCY CODES. . . . .	36-37
TABLE 21 - EXAMPLES OF TECHNICAL TASKS PERFORMED BY 20 PERCENT OR MORE GROUP MEMBERS AND NOT REFERENCED TO THE STS . . . . .	39
TABLE 22 - POI BLOCKS REFLECTING LOW FIRST-ENLISTMENT TASK PERFORMANCE (LESS THAN 30 PERCENT RESPONDING). . . . .	40
TABLE 23 - SAMPLING OF TASKS NOT REFERENCED TO 3ABR45432 000 POI BLOCKS (30 PERCENT OR MORE PERFORMING) . . . . .	42
TABLE 24 - COMPARISON OF JOB SATISFACTION INDICATORS BY TAFMS GROUPS (PERCENT MEMBERS RESPONDING) . . . . .	43
TABLE 25 - COMPARISON OF CURRENT SURVEY AND 1984 TAFMS GROUPS (PERCENT MEMBERS RESPONDING POSITIVELY). . . . .	44
TABLE 26 - COMPARISONS OF JOB SATISFACTION INDICATORS BY SPECIALTY JOBS (PERCENT MEMBERS RESPONDING). . . . .	45-46
FIGURE 1 - AFSC 454X2 SPECIALTY JOBS (N=557) . . . . .	7
FIGURE 2 - DISTRIBUTION OF AFSC 454X2 FIRST-ENLISTMENT PERSONNEL ACROSS SPECIALTY JOBS (N=97) . . . . .	29
APPENDIX A - SELECTED REPRESENTATIVE TASKS PERFORMED BY SPECIALTY JOB GROUPS . . . . .	49
APPENDIX B - TABLES DISPLAYING DATA PERTAINING TO SPECIFIC BACKGROUND QUESTIONS. . . . .	50

## PREFACE

This report presents the results of a detailed Air Force Occupational Survey of the Aircrew Egress Systems career ladder (Air Force Specialty Code (AFSC) 454X2). Authority for conducting occupational surveys is contained in AFR 35-2. Computer products upon which this report is based are available for the use of operations and training officials.

The survey instrument was developed by Chief Master Sergeant Wendell L. Beaty, Inventory Development Specialist, with computer programming support furnished by Mrs Rebecca Hernandez. Ms Raquel A. Soliz provided administrative support. Mr Robert L. Alton, Occupational Analyst, analyzed the data and wrote the final report. This report has been reviewed and approved by Major Randall C. Agee, Chief, Airman Analysis Section, Occupational Analysis Flight, USAF Occupational Measurement Squadron (USAFOMS).

Copies of this report are distributed to Air Staff sections, major commands, and other interested training and management personnel. Additional copies are available upon request to the USAF Occupational Measurement Squadron, Attention: Chief, Occupational Analysis Flight (OMY), 1550 5th Street East, Randolph Air Force Base, Texas 78150-4449 (DSN 487-6623).

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## SUMMARY OF RESULTS

1. Survey Coverage: The Aircrew Egress Systems career ladder was surveyed to evaluate changes in the career ladder since implementation of Rivet Workforce and to obtain current task and equipment data for use in evaluating current training programs. Survey results are based on responses from 557 respondents (78 percent of the total assigned personnel selected for survey). All major using commands are well represented in the survey sample.

2. Specialty Jobs: Nine jobs were identified in the sample. Six of the jobs were directly involved in performing the technical duties and tasks pertaining to maintenance of the various aircrew egress systems. One job, FIRST-LINE SUPERVISION, reflected a combination of technical and supervisory task performance. The remaining two jobs were characterized by quality assurance and training activities.

3. Career Ladder Progression: Personnel at the 3- and 5-skill levels perform many tasks in common, and both groups spend the vast majority of their relative job time performing technical maintenance tasks. At the 7-skill level, although members still perform a substantial amount of routine day-to-day technical egress system maintenance, a shift toward supervisory functions is evident.

4. AFR 39-1 Specialty Descriptions: All descriptions accurately depict the nature of the respective jobs.

5. Training Analysis: The Specialty Training Standard (STS) is generally supported by survey data; however, there are a number of elements requiring review because of questionable 3-skill level proficiency coding. The Plan of Instruction (POI) has four units of instruction which are not supported by survey data. Both the STS and POI have a number of tasks not matched that require review for possible inclusion in the training documents.

6. Implications: Now that the Advanced Concept Ejection Seat (ACES II) has become the dominant aircrew egress system in the field, some adjustments in the STS and POI appear warranted.

OCCUPATIONAL SURVEY REPORT  
AIRCREW EGRESS SYSTEMS CAREER LADDER  
(AFSC 454X2)

INTRODUCTION

This is a report of an occupational survey of the Aircrew Egress Systems career ladder completed by the USAF Occupational Measurement Squadron. This survey was requested by HQ ATC/TTOA, Randolph AFB, Texas, to review the structure of the career field since Rivet Workforce changes were implemented. There is also a need to evaluate the impact of changes due to weapons systems additions, deletions, and shifts in dominant numbers. The last survey results pertaining to this career ladder were published in September 1984.

Background

As described in AFR 39-1 Specialty Descriptions dated April 1991, personnel in this career ladder are responsible for installing, inspecting, removing, repairing, and modifying aircrew egress systems and related aerospace ground equipment (AGE).

Primary entry into the career ladder is from Basic Military Training School (BMTS) through a Category A 7-week and 1-day formal training course now conducted at Sheppard AFB, Texas. Current ABR training includes instruction pertaining to principles of operation, removal, disassembly, inspection, repair, adjustment, assembly, and installation of aircrew egress systems and related AGE; ground safety practices; electrical, pneumatic, ballistic, and rocket fundamentals; use of special tools, the technical order system, technical publications, maintenance data collection management, and man-hour reporting; and egress system inspection, maintenance, and operational checks. Entry into the career ladder currently requires an Armed Services Vocational Aptitude Battery (ASVAB) Mechanical score of 57.

SURVEY METHODOLOGY

Inventory Development

The data collection instrument for this occupational survey was USAF Job Inventory AFPT 90-454-905, dated November 1991. A tentative task list was prepared after reviewing pertinent career ladder publications and directives, tasks from the previous survey instrument, and data from the last Occupational Survey Report (OSR). The preliminary task list was refined and validated through personal interviews with 31 subject-matter experts (SMEs) (selected to cover a variety of major commands (MAJCOM) and major weapons systems) at the following operational bases:

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<u>BASE</u>	<u>REASON FOR VISIT</u>
Bergstrom AFB TX	F-4 aircraft egress systems; personnel deployed in support of Operation DESERT SHIELD/STORM
Carswell AFB TX	B-52 aircraft egress systems
Randolph AFB TX	Only base with USAF active duty AFSC 454X2 personnel maintaining egress systems on T-37 and T-38 aircraft (other bases use contract maintenance)
Dyess AFB TX	B-1 aircraft egress systems
Cannon AFB NM	F-111 aircraft module egress systems
Nellis AFB NV	A-10, F-15, and F-16 aircraft egress systems
Tonopah Weapons Test Range NV	F-117 aircraft egress systems
Edwards AFB CA	Wide variety of egress systems with more in-depth and unique maintenance tasks performed
Beale AFB CA	U-2 and TR-1 aircraft egress systems

The resulting job inventory contained a comprehensive listing of 594 tasks grouped under 13 duty headings and a background section requesting such information as grade, duty title, work schedules, type of aircraft egress systems maintained, type of AGE used, and special tools or equipment used or operated.

#### Survey Administration

From April through October 1992, Military Personnel Flights (MPF) at operational units worldwide administered the inventory to military job incumbents holding DAFSCs 45432, 45452 and 45472. Job incumbents were selected from a computer-generated mailing list obtained from personnel data tapes maintained by the Armstrong Laboratory/Human Resources Directorate (AL/HRD).

Each individual who completed the inventory first completed an identification and biographical information section and then checked each task performed in his or her current job. After checking all tasks performed, each member then rated each of these tasks on a 9-point scale, showing relative time spent on the task, as compared to all other tasks checked. The ratings



ranged from 1 (very small amount time spent) through 5 (about average time spent) to 9 (very large amount spent).

To determine relative time spent for each task checked by a respondent, all of the incumbent's ratings are assumed to account for 100 percent of his or her time spent on the job and are summed. Each task rating is then divided by the total task ratings and multiplied by 100 to provide a relative percentage of time for each task. This procedure provides a basis for comparing tasks in terms of both percent members performing and average percent time spent.

### Survey Sample

Personnel were selected to participate in this survey so as to ensure an accurate representation across major commands (MAJCOM) and military paygrade groups. All eligible DAFSC 45432, 45452, and 45472 personnel were mailed survey booklets. Table 1 reflects the percentage distribution, by MAJCOM, of assigned AFSC 454X2 personnel as of March 1992. The 557 respondents in the final sample represent 68 percent of the total assigned personnel and 78 percent of the total personnel surveyed. Table 2 reflects the paygrade distribution for these AFSC 454X2 personnel. As reflected in these tables, the survey sample is an excellent representation of the career ladder population.

### Task Factor Administration

While most participants in the survey process completed a USAF Job Inventory, selected senior DAFSC 454X2 personnel were asked to complete booklets rendering judgements on task training emphasis (TE) or task difficulty (TD). The TE and TD booklets were processed separately from the job inventories. The information gained from these task factor data is used in various analyses and is a valuable part of the training decision process.

Task Difficulty (TD). Each individual completing a TD booklet was asked to rate all of the tasks on a 9-point scale (from extremely low to extremely high) as to the relative difficulty of each task in the inventory. Difficulty is defined as the length of time required by the average incumbent to learn to do the task. Task difficulty data were independently collected from 51 7-skill level personnel stationed worldwide. Interrater reliability was determined to be acceptable, which reflects a satisfactory agreement among raters. Ratings were standardized so tasks have an average difficulty of 5.00, with a standard deviation of 1.00. The resulting data yield essentially a rank ordering of tasks indicating the degree of difficulty for each task in the inventory.

Training Emphasis (TE). Individuals completing TE booklets were asked to rate tasks on a 10-point scale (from no training required to extremely high amount of training required). TE is a rating of which tasks require structured training for first-enlistment personnel. Structured training is

TABLE 1  
COMMAND DISTRIBUTION OF 454X2 PERSONNEL

<u>COMMAND</u>	<u>PERCENT OF ASSIGNED*</u>	<u>PERCENT OF SAMPLE</u>
ACC	64	67
USAFE	14	12
PACAF	9	9
AFMC	7	7
ATC	<u>6</u>	<u>5</u>
TOTAL	100	100

Total Assigned\* - 823

Total Surveyed\*\* - 717

Total in Survey Sample - 557

Percent of Assigned in Sample - 68%

Percent of Surveyed in Sample - 78%

\* Assigned strength as of March 1992

\*\* Excludes personnel in PCS, student, or hospital status, or less than 6 weeks on the job

TABLE 2  
PAYGRADE DISTRIBUTION OF SURVEY SAMPLE

<u>GRADE</u>	<u>PERCENT OF ASSIGNED*</u>	<u>PERCENT OF SAMPLE</u>
AIRMAN	14	14
E-4	26	25
E-5	31	32
E-6	19	19
E-7	10	10

\* Assigned strength as of March 1992

defined as training provided at resident technical schools, field training detachments (FTD), mobile training teams (MTT), formal OJT, or any other organized training method. TE data were independently collected from 51 experienced 7-skill level personnel stationed worldwide. The interrater reliability for these raters was acceptable, indicating there was satisfactory agreement among raters as to which tasks required some form of structured training and which did not. In this specialty, tasks have an average TE rating of 1.62 and a standard deviation of 1.35; tasks considered high in TE have ratings of 2.97 and above. As was discussed in the Task Difficulty (TD) section, TE rating data may also be used to rank order tasks indicating those tasks which senior NCOs in the field consider the most important for the first-term airman to know.

When used in conjunction with the primary criterion of percent members performing, TD and TE ratings can provide insight into first-enlistment personnel training requirements. Such insights may suggest a need for lengthening or shortening portions of instruction supporting entry-level jobs.

#### SPECIALTY JOBS (Career Ladder Structure)

A USAF Occupational Analysis begins with an examination of the career ladder structure. The structure of jobs within the Aircrew Egress Systems career ladder was examined on the basis of similarity of tasks performed and the percent of time spent ratings provided by job incumbents, independent of other specialty background factors.

Each individual in the sample performs a set of tasks called a job. For the purpose of organizing individual jobs into similar units of work, an automated job clustering program is used. This hierarchical grouping program is a basic part of the Comprehensive Occupational Data Analysis Program (CODAP) system for job analysis. Each individual job description (all the tasks performed by that individual and the relative amount of time spent on those tasks) in the sample is compared to every other job description in terms of tasks performed and the relative amount of time spent on each task in the job inventory. The automated system is designed to locate the two job descriptions with the most similar tasks and percent time ratings and combine them to form a composite job description. In successive stages, new members are added to initial groups, or new groups are formed based on the similarity of tasks performed and similar time ratings in the individual job descriptions.

The basic identifying group used in the hierarchical job structuring process is the Job. When there are variations in the combinations of tasks and time by sample respondents, some number of different jobs are identified. The resulting job structure information (these varying jobs within the career ladder) can be used to evaluate the accuracy of career ladder documents (AFR

39-1 Specialty Descriptions and Specialty Training Standards) and to gain a better understanding of current utilization patterns. The above terminology will be used in the discussion of the AFSC 454X2 career ladder structure.

### Overview of Specialty Jobs

Structure analysis identified nine jobs within the survey sample. Based on task similarity and relative time spent, the division of jobs performed by DAFSC 454X2 personnel is illustrated in Figure 1, and a listing of those jobs is provided below. The stage (ST) or group (GP) number shown beside each title is a reference to computer-printed information; the number of personnel in each stage or group (N) is also shown.

- I. ADVANCED CONCEPT EJECTION SEAT (ACES II) EGRESS SYSTEMS MAINTENANCE (GP0035, N=291)
- II. F-4 EGRESS SYSTEM MAINTENANCE (ST0079, N=36)
- III. B-52 EGRESS SYSTEM MAINTENANCE (GP0029, N=30)
- IV. U-2/TR-1 EGRESS SYSTEMS MAINTENANCE (ST0118, N=9)
- V. T/A-37 AND T-38 EGRESS SYSTEMS MAINTENANCE (ST0128, N=5)
- VI. F-111 MODULE EGRESS SYSTEM MAINTENANCE (ST0049, N=27)
- VII. FIRST-LINE SUPERVISION (ST0064, N=100)
- VIII. QUALITY ASSURANCE (ST0058, N=6)
- IX. TRAINING (ST0027, N=6)

The respondents forming these stages and groups account for 92 percent of the survey sample. The remaining 8 percent were performing tasks or series of tasks which did not group with any of the defined jobs. Job titles given by respondents which were representative of these personnel include Weapons Systems Controller, Training Development Analyst, Program Monitor, CAMS Instructor, Squadron Mobility Officer, and Command Functional Manager.

### Group Descriptions

The following paragraphs contain brief descriptions of the jobs identified through the career ladder structure analysis. Table 3 presents the relative time spent on duties by members of these Specialty Jobs. Selected background data for these jobs are provided in Table 4. Representative tasks for all the stages and groups are contained in Appendix A.

## AFSC 454X2 SPECIALTY JOBS (N= 557)

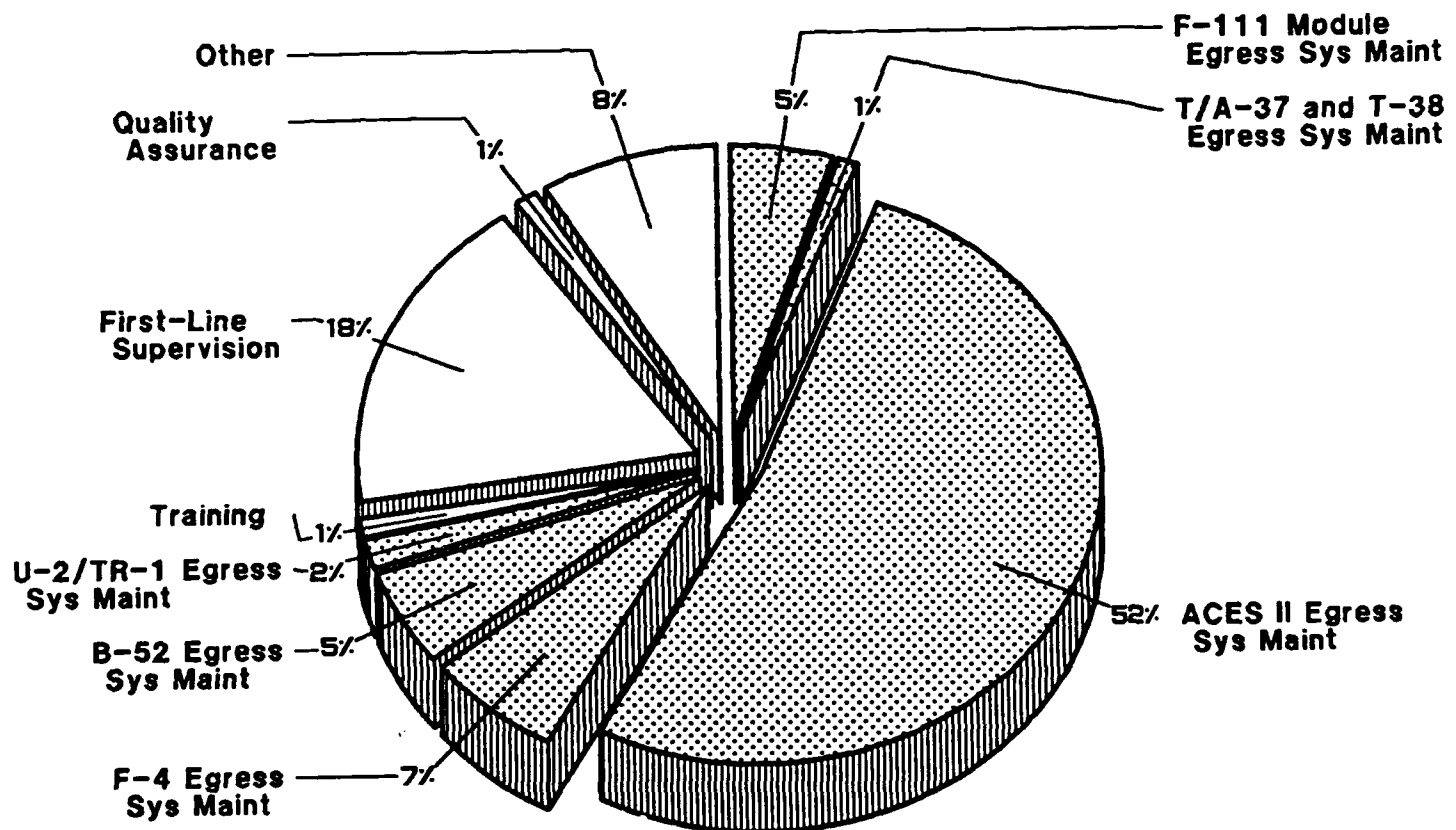


Figure 1

TABLE 3

## RELATIVE PERCENT TIME SPENT ON DUTIES BY SPECIALTY JOBS

DUTIES	ACES II EGRESS SYS MAINT (N=291)		F-4 EGRESS SYS MAINT (N=36)		B-52 EGRESS SYS MAINT (N=30)		U-2/TR-1 EGRESS SYS MAINT (N=9)		T/A37/T38 EGRESS SYS MAINT (N=5)	
A ORGANIZING AND PLANNING	2		2		2		2		3	
B DIRECTING AND IMPLEMENTING	3		3		4		3		4	
C INSPECTING AND EVALUATING	2		2		1		2		2	
D TRAINING	2		2		2		1		3	
E PERFORMING GENERAL ADMINISTRATIVE FUNCTIONS	13		9		17		20		9	
F PERFORMING GENERAL AIRCRAFT MAINTENANCE ACTIVITIES	1		1		1		*		*	
G PERFORMING GENERAL AIRCREW EGRESS MAINTENANCE ACTIVITIES	46		39		48		72		55	
H MAINTAINING ADVANCED CONCEPT EJECTION SEAT (ACES II) SYSTEMS	30		15		0		0		0	
I MAINTAINING F-4 EGRESS SYSTEMS	*		24		*		0		0	
J MAINTAINING F-111 MODULE EGRESS SYSTEMS	1		*		0		0		0	
K MAINTAINING B-52 EGRESS SYSTEMS	*		*		24		0		0	
L MAINTAINING T-38 EGRESS SYSTEMS	*		2		1		0		11	
M MAINTAINING T-37 OR A-37 EGRESS SYSTEMS	*		1		*		0		13	

\* Less than .5 percent

TABLE 3 (CONTINUED)

RELATIVE PERCENT TIME SPENT ON DUTIES BY SPECIALTY JOBS

DUTIES	F-111 MODULE EGRESS SYS MAINTENANCE (N=27)	FIRST-LINE SUPERVISION (N=100)	QUALITY ASSURANCE (N=6)	TRAINING (N=6)
A ORGANIZING AND PLANNING	5	9	4	6
B DIRECTING AND IMPLEMENTING	5	8	4	17
C INSPECTING AND EVALUATING	5	10	12	6
D TRAINING	5	6	6	43
E PERFORMING GENERAL ADMINISTRATIVE FUNCTIONS	17	23	15	27
F PERFORMING GENERAL AIRCRAFT MAINTENANCE ACTIVITIES	*	*	0	0
G PERFORMING GENERAL AIRCREW EGRESS MAINTENANCE ACTIVITIES	23	30	37	1
H MAINTAINING ADVANCED CONCEPT EJECTION SEAT (ACES II) SYSTEMS	*	11	19	0
I MAINTAINING F-4 EGRESS SYSTEMS	0	*	1	0
J MAINTAINING F-111 MODULE EGRESS SYSTEMS	40	*	0	0
K MAINTAINING B-52 EGRESS SYSTEMS	0	3	*	0
L MAINTAINING T-38 EGRESS SYSTEMS	*	*	1	0
M MAINTAINING T-37 OR A-37 EGRESS SYSTEMS	0	*	1	0

\* Less than .5 percent

TABLE 4

## SELECTED BACKGROUND DATA FOR SPECIALTY JOBS

	ACES II EGRESS SYS MAINT	F-4 EGRESS SYS MAINT	B-52 EGRESS SYS MAINT	U-2/TR-1 EGRESS SYS MAINT	T/A37/T38 EGRESS SYS MAINT
NUMBER IN GROUP	291	36	30	9	5
PERCENT OF SAMPLE	52%	7%	5%	2%	1%
PERCENT IN CONUS	76%	61%	100%	67%	100%
DAFSC DISTRIBUTION:					
45432	7%	3%	30%	0%	20%
45452	59%	50%	47%	56%	40%
45472	34%	47%	23%	44%	40%
PREDOMINANT GRADE(S)	E-4/E-5	E-5	E-5/E-4	E-4	E-4
AVERAGE MONTHS IN CAREER FIELD	93	111	75	97	83
AVERAGE MONTHS IN SERVICE	98	120	82	99	91
PERCENT IN FIRST ENLISTMENT	24%	9%	33%	11%	20%
PERCENT SUPERVISING	52%	56%	33%	33%	40%
AVERAGE NUMBER OF TASKS PERFORMED	133	218	82	84	129



TABLE 4 (CONTINUED)

## SELECTED BACKGROUND DATA FOR SPECIALTY JOBS

	F-111 MODULE EGRESS SYS MAINTENANCE	FIRST-LINE SUPERVISION	QUALITY ASSURANCE	TRAINING
NUMBER IN GROUP	27	100	6	6
PERCENT OF SAMPLE	5%	18%	1%	1%
PERCENT IN CONUS	74%	77%	100%	100%

---

DAFSC DISTRIBUTION:				
45432	11%	0%	0%	0%
45452	37%	22%	0%	83%
45472	52%	78%	100%	17%

---

PREDOMINANT GRADE(S)	E-5/E-3	E-6/E-7	E-7	E-5
AVERAGE MONTHS IN CAREER FIELD	103	161	178	83
AVERAGE MONTHS IN SERVICE	118	170	188	112
PERCENT IN FIRST ENLISTMENT	33%	2%	0%	0%

---

PERCENT SUPERVISING	56%	93%	50%	17%
AVERAGE NUMBER OF TASKS PERFORMED	119	192	82	20

I. ADVANCED CONCEPT EJECTION SEAT (ACES II) EGRESS SYSTEMS MAINTENANCE (GP0035). The 291 airmen forming this group (52 percent of the survey sample and the largest job identified) are responsible for the installation, inspection, repair, and modification of the ACES II aircrew egress system. Most of their relative job time (89 percent) is spent on tasks dealing with general aircrew egress maintenance, ACES II system-specific maintenance, and the administrative documentation of maintenance actions on various forms and records. Examples of the most representative maintenance-type tasks common to these respondents are:

- performing corrosion control on aircrew egress systems
- removing or installing ACES II STA-PAC assemblies
- arming or dearming ejection systems
- removing or installing ejection seat head-rests, back-rests, or arm-rest pads
- performing operational checks of ACES II environmental sensors
- adjusting inertia reels, linkages, or controls

Even though this job was formed on the basis of personnel performing a large number of common core tasks, some subgroups could be seen based on the performance of tasks peculiar to specific aircraft. The A-10, B-1, F-15, and F-16 aircraft all use the ACES II system, but each has some tasks which are peculiar to that weapons system. The numbers of these tasks, however, are not enough to negate the overall theme of commonality. With an average of almost 8 years time in the career field, 93 percent of these airmen report holding the 5-skill or 7-skill level, and reflect predominant paygrades of E-4 and E-5.

II. F-4 EGRESS SYSTEM MAINTENANCE (ST0079). Comprising 7 percent of the survey sample, these 36 airmen are similar to the group discussed above in that they, too, are responsible for the installation, inspection, repair, and modification of an aircrew egress system. The basic difference between the two is that the personnel forming this job concentrate their relative job time (63 percent) on tasks pertaining to general aircrew egress maintenance and, more specifically, the egress system peculiar to the F-4 aircraft. An additional 9 percent of their relative job time is devoted to the administrative tasks required to document their maintenance activities. Typical of the average 218 tasks (highest number of all groups identified) performed are:

- removing or installing F-4 aircraft ejection seat buckets
- making entries on AFTO Forms 350 (Reparable Item Processing Tag)
- performing operational checks of lap-belt release mechanisms
- removing or installing F-4 ejection seat explosive cartridges
- arming or dearming ejection systems
- removing or installing F-4 ejection seat aircrew personnel parachutes

These predominantly E-5 personnel report an average of over 9 years experience in the career field, and 97 percent report holding the 5- or 7-skill level (50 percent and 47 percent respectively).

III. B-52 EGRESS SYSTEM MAINTENANCE (GP0029). The least experienced group in the survey sample (they report an average of 75 months in the career field), these incumbents are responsible for the installation, inspection, and repair of the egress system (ejection seats and hatches) peculiar to the B-52 aircraft. The vast majority of their relative job time (89 percent) is spent on tasks dealing with general aircrew egress maintenance (48 percent), B-52 specific egress system maintenance (24 percent), and performing administrative functions related to their maintenance activities (17 percent). Typical tasks which characterize the job include:

- removing or installing B-52 escape hatches
- inspecting ballistic gas hoses
- troubleshooting B-52 hatch warning-light systems
- updating CAMS data
- raising or lowering B-52 ejection seats
- removing or installing B-52 leg-guard thrusters

The majority of the 30 airmen in this job hold paygrades of E-2 (10 percent), E-3 (23 percent), or E-4 (27 percent), and 77 percent report holding a 3-skill or 5-skill level.

IV. U-2/TR-1 EGRESS SYSTEMS MAINTENANCE (ST0118). The job performed by these nine airmen focuses on the maintenance and repair of egress systems for the U-2 and TR-1 aircraft. Tasks consuming most of the relative duty time of these predominantly E-4 personnel include removing or installing canopy systems check-valves, purging egress systems lines or hoses, making entries on AFTO Forms 349 (Maintenance Data Collection Record), removing or installing canopy external or internal jettison cables, and removing or installing ejection seat rotary actuators. Job members report an average of over 8 years in the career field, and all report holding the 5-skill level or 7-skill level (56 percent and 44 percent respectively).

V. T-37 AND T-38 EGRESS SYSTEMS MAINTENANCE (ST0128). These five airmen (primarily ATC personnel) concentrate their relative job time (79 percent) on tasks pertaining to installation, maintenance, modification, and repair of aircrew egress systems on the A-37, T-37, and T-38 aircraft. An additional 9 percent of their relative job time is spent on the performance of general administrative functions. Distinctive tasks (an average of 129 are performed) include:

- removing or installing T-37 ejection seats
- removing or installing canopies
- removing or installing T-38 canopy thrusters

- arming or dearming ejection systems
- removing or installing T-37 or A-37 inertia harnesses
- removing or installing T-38 ejection seats
- inspecting canopy firing release mechanisms or extractors

With an average of almost 7 years time in the career field, 80 percent of these airmen report holding the 5-skill or 7-skill level and reflect a pre-dominant paygrade of E-4.

VI. F-111 MODULE EGRESS SYSTEM MAINTENANCE (ST0049). Comprising 5 percent of the survey sample, these 27 airmen are responsible for the maintenance, repair, and modification of the unique module egress system distinctive to the F/FB/EF-111 series aircraft. Forty percent of their relative job time is devoted to tasks specific to the module egress system, with an additional 40 percent committed to tasks involving general egress system maintenance and administrative functions associated with maintenance procedures. Tasks which display the specialized nature of the job include:

- inspecting module impact attenuation pneumatic regulators
- performing functional checks of inertia reels
- removing or installing module recovery parachutes
- making entries on AFTO Form 781A (Maintenance Discrepancy and Work Document)
- repairing bilge pumps
- removing or installing module emergency radio beacons

These personnel are very experienced, reporting an average of over 8 1/2 years time in the career field, and 52 percent indicate holding the 7-skill level.

VII. FIRST-LINE SUPERVISION (ST0064). Ninety-three of these 100 respondents (18 percent of the survey sample and the second largest group identified) reported that they were supervising other personnel. Averaging over 13 years in the career field, 78 percent report holding the 7-skill level. While the job still involves the performance of many tasks pertaining to day-to-day technical egress systems maintenance and repair activities, 56 percent of their relative job time is devoted to tasks pertaining to supervision, management, training, and administrative functions. Performing many of the same technical tasks as personnel in previously described maintenance-oriented jobs, these incumbents are distinguished by the performance of basic supervisory and managerial tasks such as:

- writing EPRs
- supervising Aircrew Egress Systems Mechanics (AFSC 45452)
- scheduling leaves or passes
- conducting OJT
- performing egress systems final inspections
- making entries on AF Forms 2413 (Supply Control Log)
- reviewing bench stock due-out lists (R31s)

Although some subgroups oriented to specific aircraft systems were visible, by and large the commonly performed general aircrew egress systems maintenance and supervisory tasks were the dominant characteristics of this job.

VIII. QUALITY ASSURANCE (ST0058). The six personnel forming this group (all report holding the 7-skill level and reflect an average of almost 15 years time in the career field) perform a job that is characterized by the time spent performing tasks dealing with the inspection, evaluation, or review of various egress systems maintenance activities or functions. Typical tasks performed by personnel in this job include:

- reviewing flight safety reports
- inspecting egress shop explosives storage facilities
- performing quality inspections on egress systems maintenance
- evaluating inspection reports or procedures
- reviewing ground safety reports

IX. TRAINING (ST0027). The majority of these six NCOs are Instructors assigned to the training center. With almost 7 years in the career field (predominant paygrade is E-5), these incumbents spend 70 percent of their relative duty time on tasks pertaining to training and general administrative functions. Examples of these definitive grouping tasks include conducting resident course classroom training, administering tests, counseling trainees on training progress, writing test questions, and developing training aids.

#### Comparisons of Specialty Jobs

Nine jobs were identified in the career ladder structure analysis. Six of the jobs were directly involved in performing the technical duties and tasks pertaining to the various aircrew egress systems. One job, FIRST-LINE SUPERVISION, reflected a combination of technical and supervisory task performance. The remaining two jobs were characterized by quality assurance and training activities.

Six of the jobs are oriented toward egress systems on specific aircraft (or series of aircraft -- ACES II). Five of these six perform a large number of common-core general egress maintenance tasks. The F-111 MODULE EGRESS SYSTEM MAINTENANCE job is notably different because personnel perform a series of tasks peculiar to the module system versus the individual seats in the other systems. These data indicate a homogeneous career ladder, and personnel, overall, are performing jobs as defined in the current classification structure.

#### Comparison of Current Job Descriptions to Previous Survey Findings

The results of the specialty job analysis were compared to those of Occupational Survey Report (OSR) AFPT 90-423-503, AIRCREW EGRESS SYSTEMS CAREER LADDER (old AFSC 423X2), dated September 1984. After reviewing the tasks comprising the jobs identified in 1984, all of the groups with substantial numbers of personnel could be linked to similar task performances by 1992 sample groups (see Table 5).

While there were three jobs identified in the current sample which did not have a direct match in the 1984 career ladder structure, and four 1984 jobs do not appear in the current structure, the personnel in these jobs represent very small percentages of the survey samples and should have very little impact on the career ladder as a whole in terms of numbers. Changes regarding three of the jobs, however, are noteworthy.

The substantial increase in the percentage of career ladder personnel in the ACES II EGRESS SYSTEMS MAINTENANCE job in 1992 versus 1984, along with the corresponding decrease in personnel in the 1992 F-4 EGRESS SYSTEM MAINTENANCE job, reflects the decreasing number of F-4 series aircraft in the active-duty USAF inventory and the increase in aircraft using the ACES II egress system. These changes should be noted by training officials, and most likely will require some adjustments in training programs.

The second notable change is the decrease in the percentage of 1992 sample personnel involved in T-37 and T-38 egress systems maintenance. This change has occurred because of the move to contract maintenance for most T-37 and T-38 series aircraft.

While the vast majority of the current sample were found to be performing jobs identified in 1984, the change in emphasis regarding the two largest jobs (ACES II and F-4 EGRESS SYSTEMS MAINTENANCE) must be considered in future training decisions.

TABLE 5

## SPECIALTY JOB COMPARISONS BETWEEN CURRENT AND 1984 SURVEYS

<u>CURRENT SURVEY (N=557)</u>	<u>PERCENT OF SAMPLE</u>	<u>1984 SURVEY (N=854)</u>	<u>PERCENT OF SAMPLE</u>
ACES II EGRESS SYSTEMS MAINTENANCE	52	ACES II CLUSTER	20
F-4 EGRESS SYSTEM MAINTENANCE	7	F-4 EGRESS SYSTEM CLUSTER	35
B-52 EGRESS SYSTEM MAINTENANCE	5	B-52 EGRESS SYSTEM PERSONNEL	6
U-2/TR-1 EGRESS SYSTEMS MAINTENANCE	2	NOT IDENTIFIED	-
T/A-37 AND T-38 EGRESS SYSTEMS MAINTENANCE	1	T-37/T-38 EGRESS SYSTEM PERSONNEL	10
F-111 MODULE EGRESS SYSTEM MAINTENANCE	5	MODULE EGRESS SYSTEM PERSONNEL	6
FIRST-LINE SUPERVISION	18	EGRESS SYSTEM NCOICs	10
QUALITY ASSURANCE	1	NOT IDENTIFIED	-
TRAINING	1	NOT IDENTIFIED	-
NOT IDENTIFIED	-	F-106 AND T-33 EGRESS SYSTEM PERSONNEL	3
NOT IDENTIFIED	-	OV-10 EGRESS SYSTEM PERSONNEL	1
NOT IDENTIFIED	-	PYROTECHNICIANS	*
NOT IDENTIFIED	-	SUPERINTENDENTS	1

\* Less than .5 percent

## ANALYSIS OF DAFSC GROUPS

An analysis of DAFSC groups, in conjunction with the analysis of the career ladder structure, is an important part of each occupational survey. The DAFSC analysis identifies differences in tasks performed at the various skill levels. This information may then be used to evaluate how well career ladder documents, such as AFR 39-1 Specialty Descriptions and the Specialty Training Standard (STS), reflect what career ladder personnel are actually doing in the field.

The distribution of skill-level groups across the career ladder jobs is displayed in Table 6, while Table 7 offers another perspective by displaying the relative percent time spent on each duty across the skill-level groups. A typical pattern of progression is present, with personnel spending more of their relative time on duties involving supervisory, managerial, and training tasks as they move upward toward the 7-skill level. It is also obvious, though, that 7-skill level personnel are still involved with technical task performance, as will be pointed out in the specific skill-level group discussions below.

### Skill-Level Descriptions

DAFSC 45432. The 37 airmen reporting holding the 3-skill level (representing 7 percent of the survey sample), performed an average of only 84 tasks, with 69 tasks accounting for over 50 percent of their relative job time. Performing a highly technical job, 86 percent of their relative duty time is devoted to tasks covering general and aircraft-specific maintenance pertaining to most aircrew egress systems. Tasks involving general administrative functions accounted for an additional 11 percent of their duty time. As shown in Table 6, personnel in this group are represented in five of the six technically oriented jobs, with the majority in the ACES II EGRESS SYSTEM MAINTENANCE job. Table 8 displays representative time-consuming tasks performed by the highest percentages of these airmen.

DAFSC 45452. Five-skill level personnel (47 percent of the survey sample) perform many tasks in common with the 3-skill level personnel. The scope of the job performed by these airmen is somewhat greater than that of the 3-skill level group (127 tasks versus an average of only 84 tasks respectively), and 5-skill level members are represented in all but 1 of the 9 specialty jobs (see Table 6). Seventy-five percent of these airmen's relative job time is spent on tasks involving maintenance of the various aircrew egress systems. Additionally, 15 percent of their relative time is devoted to performing administrative functions in support of their maintenance activities. Table 9 displays selected representative tasks performed by the highest percentages of these airmen. Table 10 displays those tasks which reflect differences between the 3-skill level and 5-skill level groups.



TABLE 6

## DISTRIBUTION OF DAFSC GROUP MEMBERS ACROSS SPECIALTY JOBS

SPECIALTY JOBS	DAFSC 45432 (N=37)		DAFSC 45452 (N=265)		DAFSC 45472 (N=255)	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
I. ADVANCED CONCEPT EJECTION SEAT (ACES II) EGRESS SYSTEMS MAINTENANCE	20	54%	172	65%	99	39%
II. F-4 EGRESS SYSTEM MAINTENANCE	1	3%	18	7%	17	7%
III. B-52 EGRESS SYSTEM MAINTENANCE	9	24%	14	5%	7	3%
IV. U-2/TR-1 EGRESS SYSTEMS MAINTENANCE	0	0%	5	2%	4	2%
V. T/A-37 AND T-38 EGRESS SYSTEMS MAINTENANCE	1	3%	2	1%	2	1%
VI. F-111 MODULE EGRESS SYSTEM MAINTENANCE	3	8%	10	4%	14	5%
VII. FIRST-LINE SUPERVISION	0	0%	22	8%	78	30%
VIII. QUALITY ASSURANCE	0	0%	0	0	6	2%
IX. TRAINING	0	0%	5	2%	1	*
NOT GROUPED	3	8%	17	6%	27	11%

\* Less than .5 percent

TABLE 7

## RELATIVE PERCENT TIME SPENT ON DUTIES BY DAFSC GROUPS

DUTIES	DAFSC 45432 (N=37)	DAFSC 45452 (N=265)	DAFSC 45472 (N=255)
A ORGANIZING AND PLANNING	*	2	7
B DIRECTING AND IMPLEMENTING	3	3	6
C INSPECTING AND EVALUATING	*	2	8
D TRAINING	*	3	6
E PERFORMING GENERAL ADMINISTRATIVE FUNCTIONS	11	15	19
F PERFORMING GENERAL AIRCRAFT MAINTENANCE ACTIVITIES	1	1	*
G PERFORMING GENERAL AIRCREW EGRESS MAINTENANCE ACTIVITIES	47	44	33
H MAINTAINING ADVANCED CONCEPT EJECTION SEAT (ACES II) SYSTEMS	24	23	15
I MAINTAINING F-4 EGRESS SYSTEMS	2	2	2
J MAINTAINING F-111 MODULE EGRESS SYSTEMS	4	2	3
K MAINTAINING B-52 EGRESS SYSTEMS	7	2	1
L MAINTAINING T-38 EGRESS SYSTEMS	1	1	*
M MAINTAINING T-37 OR A-37 EGRESS SYSTEMS	*	*	*

\* Less than .5 percent

TABLE 8  
REPRESENTATIVE TASKS PERFORMED BY  
45432 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=37)
G210 ARM OR DEARM EJECTION SYSTEMS	89
E125 MAKE ENTRIES ON AFTO FORMS 350 (REP ITEM PROCESSING TAG)	84
G211 CLEAN EGRESS SHOP EQUIPMENT	81
E126 MAKE ENTRIES ON AFTO FORMS 781A (MAINTENANCE DISCREPANCY AND WORK DOCUMENT)	76
G219 INSPECT BALLISTIC GAS HOSES	76
G291 REMOVE OR INSTALL EJECTION SEAT SURVIVAL KITS	73
G258 PERFORM FUNCTIONAL CHECKS OF INERTIA REELS	70
G235 INSPECT EJECTION SEAT HEAD-RESTS	70
G269 PERFORM TCTO MODIFICATIONS TO EGRESS SYSTEMS	70
G253 PERFORM CORROSION CONTROL ON AIRCREW EGRESS SYSTEMS	68
G252 PERFORM COCKPIT FOREIGN OBJECT INSPECTIONS	65
G284 REMOVE OR INSTALL EJECTION SEAT DROGUE-CHUTES	65
G287 REMOVE OR INSTALL EJECTION SEAT HEAD-RESTS, BACK-RESTS, LEG-RESTS, OR ARM-REST PADS	65
G207 ADJUST EJECTION SEAT COMPONENTS OR LINKAGES	65
H368 REMOVE OR INSTALL ACES II ENVIRONMENTAL SENSORS	65
E140 MAKE ENTRIES ON TOOL INVENTORY FORMS	62
B39 INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	62
G299 TRANSPORT EGRESS SYSTEMS EXPLOSIVE COMPONENTS	62
G264 PERFORM OPERATIONAL CHECKS OF SEAT ACTUATORS	59
G272 REMOVE OR INSTALL AIRCRAFT PANELS	59
G227 INSPECT EGRESS SHOP SUPPORT EQUIPMENT	59
G288 REMOVE OR INSTALL EJECTION SEAT LAP-BELTS	59
G243 INSPECT INERTIA REELS, LINKAGES, CABLES, STRAPS, OR CONTROLS	59
H370 REMOVE OR INSTALL ACES II RECOVER SEQUENCERS	57
H364 REMOVE OR INSTALL ACES II EJECTION SEAT RECOVERY PARACHUTES	57
G271 REMOVE OR INSTALL ACTUATORS OR BALLISTIC REMOVERS	54
G228 INSPECT EGRESS SYSTEM BALLISTIC COMPONENTS, OTHER THAN EXPLOSIVE PANELS OR LINES	54
G257 PERFORM FUNCTIONAL CHECKS OF EJECTION SEAT LINKAGES, SUCH AS D-RINGS OR EJECTION CONTROL HANDLES	51

Average Number of Tasks Performed - 84

TABLE 9  
REPRESENTATIVE TASKS PERFORMED BY  
45452 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=265)
G210 ARM OR DEARM EJECTION SYSTEMS	91
G299 TRANSPORT EGRESS SYSTEMS EXPLOSIVE COMPONENTS	90
G258 PERFORM FUNCTIONAL CHECKS OF INERTIA REELS	89
G236 INSPECT EJECTION SEAT LAP-BELTS	86
G235 INSPECT EJECTION SEAT HEAD-RESTS	86
E125 MAKE ENTRIES ON AFTO FORMS 350 (REP ITEM PROCESSING TAG)	86
E126 MAKE ENTRIES ON AFTO FORMS 781A (MAINTENANCE DISCREPANCY AND WORK DOCUMENT)	85
G211 CLEAN EGRESS SHOP EQUIPMENT	83
G269 PERFORM TCTO MODIFICATIONS TO EGRESS SYSTEMS	82
G219 INSPECT BALLISTIC GAS HOSES	81
G293 REMOVE OR INSTALL INERTIA REELS, LINKAGES, CABLES, STRAPS, OR CONTROLS	81
G282 REMOVE OR INSTALL EJECTION SEAT CATAPULTS	81
G253 PERFORM CORROSION CONTROL ON AIRCREW EGRESS SYSTEMS	78
G291 REMOVE OR INSTALL EJECTION SEAT SURVIVAL KITS	76
G207 ADJUST EJECTION SEAT COMPONENTS OR LINKAGES	75
H368 REMOVE OR INSTALL ACES II ENVIRONMENTAL SENSORS	73
E111 MAKE ENTRIES ON AF FORMS 2005 (ISSUE/TURN-IN REQUEST)	72
H369 REMOVE OR INSTALL ACES II MORTAR DISCONNECT ASSEMBLIES	72
H307 INSPECT ACES II DROGUE SEVERANCE CUTTERS	71
H370 REMOVE OR INSTALL ACES II RECOVERY SEQUENCERS	71
H315 INSPECT ACES II SEAT SLINGS	70
H348 PERFORM OPERATIONAL CHECKS OF ACES II EJECTION SEAT SEQUENCE-START SWITCHES	65
G262 PERFORM OPERATIONAL CHECKS OF LAP-BELT RELEASE MECHANISMS	63
G240 INSPECT EJECTION SEAT POSITIONING ACTUATORS	60
G294 REMOVE OR INSTALL SEAT POSITIONING ACTUATORS	58
G241 INSPECT EJECTION SEAT SURVIVAL KITS	55
E113 MAKE ENTRIES ON AF FORMS 2413 (SUPPLY CONTROL LOG)	54
E118 MAKE ENTRIES ON EXPLOSIVES INVENTORY FORMS	52

Average Number of Tasks Performed - 127

TABLE 10

TASKS WHICH BEST DIFFERENTIATE BETWEEN  
DAFSCs 45432 AND 45452 PERSONNEL  
(PERCENT MEMBERS PERFORMING)

TASKS	DAFSC 45432 (N=37)	DAFSC 45452 (N=265)	DIFF
K352 INSPECT B-52 HATCH COMPONENTS	30	10	+20
K541 REMOVE OR INSTALL B-52 ESCAPE HATCHES	27	10	+17
H392 REMOVE OR INSTALL F-15 CANOPY RAISING ADAPTERS	30	22	+12
E124 MAKE ENTRIES ON AFTO FORMS 349 (MAINTENANCE DATA COLLECTION RECORD)	49	38	+11
G218 INSPECT AIRCRAFT MAINTENANCE EQUIPMENT (AME), SUCH AS PINS, STRUTS, CAPS, OR PLUGS	62	53	+9
G223 INSPECT CANOPY OR HATCH SLINGS	35	31	+4
-----			
E114 MAKE ENTRIES ON AF FORMS 2430 (SPECIALIST DISPATCH LOG)	22	71	-49
G281 REMOVE OR INSTALL EGRESS SYSTEMS LINES, TUBES, OR HOSES	38	73	-35
G260 PERFORM ONE-TIME INSPECTIONS ON EGRESS SYSTEMS	46	78	-32
E133 MAKE ENTRIES ON DD FORMS 1574 (SERVICEABLE TAG-MATERIEL)	35	65	-30
G303 TROUBLESHOOT EJECTION SEAT POSITIONING MECHANISMS, SUCH AS CABLES, ACTUATORS, OR THRUSTERS	22	51	-29
G233 INSPECT EJECTION SEAT EMERGENCY OXYGEN SYSTEMS	49	78	-29
E163 UPDATE CAMS DATA	35	60	-25

DAFSC 45472. Representing 46 percent of the survey sample, these 255 NCOs perform an average of 153 tasks, with 106 tasks accounting for over 50 percent of their relative job time. Even though 86 percent report supervisory responsibilities, only 27 percent of their job time is spent on the usual supervisory, managerial, and training duties (see Table 7, Duties A, B, C, and D). A review of Table 6 shows this orientation toward day-to-day technical maintenance activity, since 87 percent of the 7-skill level personnel are found in the jobs that were identified with aircrew ejection systems maintenance or technician-supervisory functions (i.e., the FIRST-LINE SUPERVISION job). While the display of tasks in Table 11 clearly shows supervisory responsibilities, it also reflects the range and scope of the job, in that they are also technicians performing a variety of routine technical tasks. Table 12 presents tasks which show differences between the 7-skill level and 5-skill level groups and also reflects the supervisory responsibilities incumbent to the 7-skill level population.

#### Summary

Three-skill level and 5-skill level airmen perform many tasks in common, and both groups spend the vast majority of their relative job time performing technical maintenance tasks. At the 7-skill level, although members still perform a substantial amount of routine day-to-day technical egress systems maintenance, a shift toward supervisory functions is evident.

#### ANALYSIS OF AFR 39-1 SPECIALTY DESCRIPTIONS

Survey data were compared to the AFR 39-1 Specialty Descriptions for Aircrew Egress Systems Mechanic and Aircrew Egress Systems Technician, both dated 30 April 1991.

The 3-/5-skill level specialty description appears complete and accurately portrays the range and technical nature of the job. The description for the technician (AFSC 45472) accurately reflects both the supervisory and the previously discussed technical nature of job.

#### TRAINING ANALYSIS

Occupational survey data are one of the many sources of information which can be used to assist in the development of a training program relevant to the needs of personnel in their first enlistment. Factors which may be used in evaluating training include the overall description of the job being performed by first-enlistment personnel and their overall distribution across career ladder jobs, percentages of first-job (1-24 months TAFMS) or first-enlistment

TABLE 11  
REPRESENTATIVE TASKS PERFORMED BY  
45472 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=255)
E126 MAKE ENTRIES ON AFTO FORMS 781A (MAINTENANCE DISCREPANCY AND WORK DOCUMENT)	85
G260 PERFORM ONE-TIME INSPECTIONS ON EGRESS SYSTEMS	80
C69 WRITE EPRs	80
G210 ARM OR DEARM EJECTION SYSTEMS	79
C47 CONDUCT PERFORMANCE FEEDBACK WORKSHEET (PFW) SESSIONS	79
E125 MAKE ENTRIES ON AFTO FORMS 350 (REP ITEM PROCESSING TAG)	79
G258 PERFORM FUNCTIONAL CHECKS OF INERTIA REELS	78
B41 SUPERVISE AIRCREW EGRESS SYSTEMS MECHANICS (AFSC 45452)	77
G267 PERFORM PRODUCTION INSPECTION DUTIES (RED X)	77
B39 INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	77
G255 PERFORM EGRESS SYSTEMS FINAL INSPECTIONS	74
G282 REMOVE OR INSTALL EJECTION SEAT CATAPULTS	74
G253 PERFORM CORROSION CONTROL ON AIRCREW EGRESS SYSTEMS	73
G293 REMOVE OR INSTALL INERTIA REELS, LINKAGES, CABLES, STRAPS, OR CONTROLS	73
G268 PERFORM QUALITY INSPECTIONS ON EGRESS SYSTEMS MAINTENANCE	69
G288 REMOVE OR INSTALL EJECTION SEAT LAP-BELTS	69
G209 ADJUST INERTIA REELS, LINKAGES, OR CONTROLS	68
G291 REMOVE OR INSTALL EJECTION SEAT SURVIVAL KITS	66
G281 REMOVE OR INSTALL EGRESS SYSTEMS LINES, TUBES, OR HOSES	65
G207 ADJUST EJECTION SEAT COMPONENTS OR LINKAGES	65
G287 REMOVE OR INSTALL EJECTION SEAT HEAD-RESTS, BACK-RESTS, LEG-RESTS, OR ARM-REST PADS	65
C70 WRITE RECOMMENDATIONS FOR AWARDS OR DECORATIONS	64
G283 REMOVE OR INSTALL EJECTION SEAT DROGUE GUNS	62
H368 REMOVE OR INSTALL ACES II ENVIRONMENTAL SENSORS	62
H371 REMOVE OR INSTALL ACES II STA-PAC ASSEMBLIES	59
H348 PERFORM OPERATIONAL CHECKS OF ACES II EJECTION SEAT SEQUENCE-START SWITCHES	58
G250 PACK OR UNPACK EGRESS SYSTEMS EXPLOSIVE COMPONENTS FOR SHIPPING OR TRANSPORTATION	55

Average Number of Tasks Performed - 153

TABLE 12

TASKS WHICH BEST DIFFERENTIATE BETWEEN  
DAFSCs 45452 AND 45472 PERSONNEL  
(PERCENT MEMBERS PERFORMING)

TASKS	DAFSC 45452 (N=265)	DAFSC 45472 (N=255)	DIFF
G211 CLEAN EGRESS SHOP SUPPORT EQUIPMENT	83	55	+28
G233 INSPECT EJECTION SEAT EMERGENCY OXYGEN SYSTEMS	78	65	+13
G274 REMOVE OR INSTALL CANOPIES	46	33	+13
G273 REMOVE OR INSTALL AME, SUCH AS PINS, STRUTS, CAPS, OR PLUGS	60	48	+12
G210 ARM OR DEARM EJECTION SYSTEMS	91	79	+12
E124 MAKE ENTRIES ON AFTO FORMS 349 (MAINTENANCE DATA COLLECTION RECORD)	38	26	+12
H352 PERFORM OPERATIONAL CHECKS OF ACES II STA-PAC ASSEMBLIES	54	45	+9
-----			
C69 WRITE EPRs	27	80	-53
A6 DETERMINE WORK PRIORITIES	27	73	-46
G267 PERFORM PRODUCTION INSPECTION DUTIES (RED X)	34	77	-43
G255 PERFORM EGRESS SYSTEMS FINAL INSPECTIONS	35	74	-39
B41 SUPERVISE AIRCREW EGRESS SYSTEMS MECHANICS (AFSC 45452)	41	77	-36
D79 COUNSEL TRAINEES ON TRAINING PROGRESS	24	56	-32



(1-48 months TAFMS) members performing specific tasks or using certain equipment or tools, as well as TE and TD ratings (previously explained in the SURVEY METHODOLOGY section).

To assist specifically in evaluation of the Specialty Training Standard (STS) and the Plan of Instruction (POI), technical school personnel from Sheppard Training Center matched job inventory tasks to appropriate sections and subsections of the STS and the POI for Course 3ABR45432 000. It was this matching upon which comparison to those documents was based. A complete computer listing displaying the percent members performing tasks, TE and TD ratings for each task, along with the STS and POI matchings, has been forwarded to the technical school for their use in further detailed reviews of appropriate training documents. A summary of this information is presented below.

#### First-Enlistment Personnel

In this study, there are 97 members in their first enlistment (1-48 months TAFMS), representing over 17 percent of the total survey sample. The job performed by these personnel is highly technical in nature, accounting for approximately 97 percent of their relative duty time (see Table 13). While Table 13 shows that first-enlistment airmen are involved in maintenance activities pertaining to various aircrew egress systems, it is clear that the largest percentage of their job time is spent on tasks pertaining to general aircrew egress maintenance activities and the ACES II system. Distribution of these personnel across the career ladder jobs is displayed in Figure 2, which also displays that the vast majority of first-enlistment airmen are associated with the ACES II egress system. Table 14 displays some of the average 107 tasks performed by the group and reflects the performance of general egress system maintenance as well as the high percent members response to tasks peculiar to the ACES II egress system.

One of the objectives of this survey project was to gather data for the training center pertaining to various types of aircraft on which egress systems are maintained, aerospace ground equipment used, and special tools or equipment used or operated. Accordingly, Tables 15 through 17 present percentages of first-enlistment airmen responding to questions concerning their activities involving these items. This type of information is useful for both technical school and MAJCOM training personnel to assist them in focusing limited training time or other resources on the most utilized items.

#### Training Emphasis and Task Difficulty Data

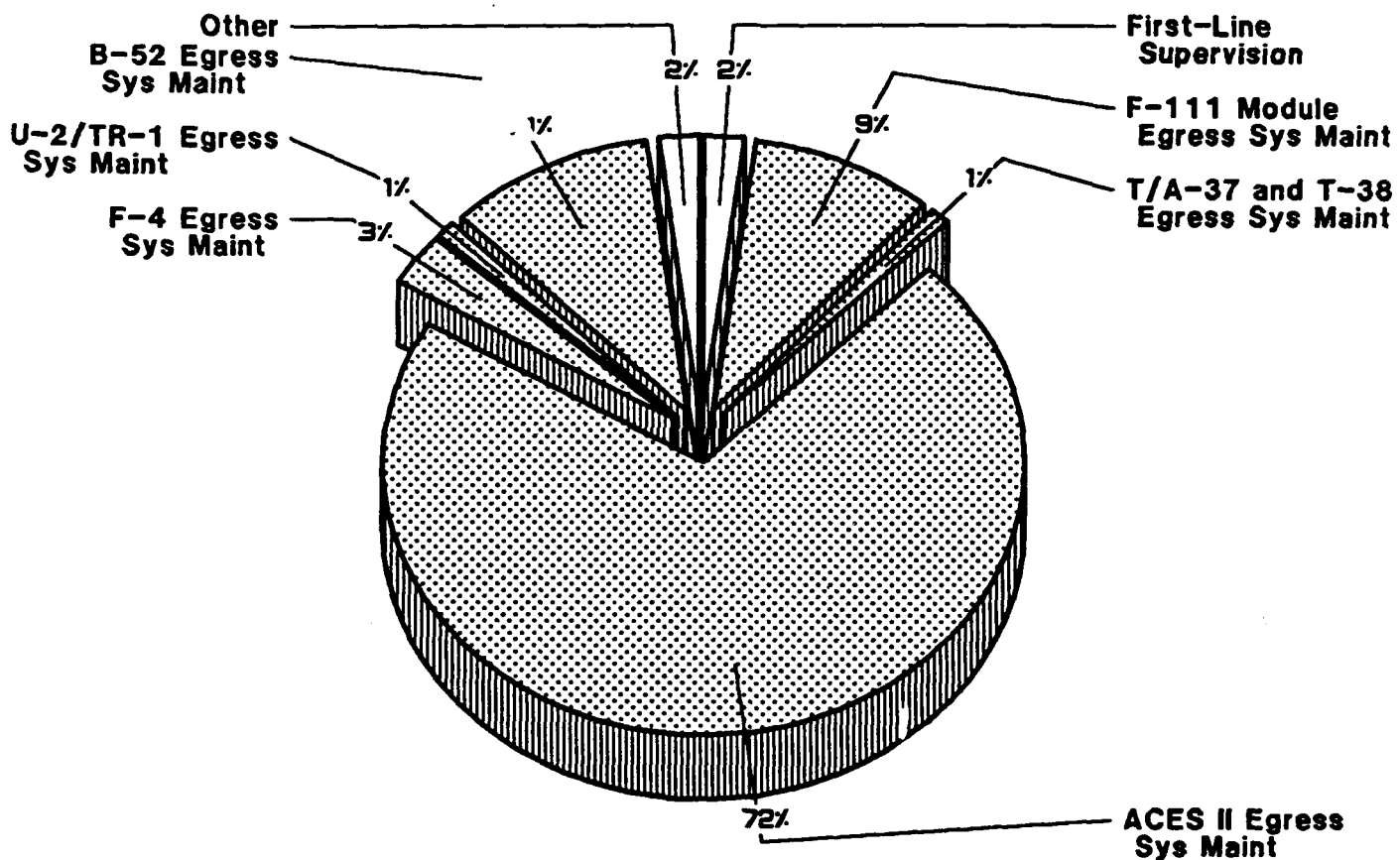
Training emphasis (TE) and task difficulty (TD) data are secondary factors that can assist technical school personnel in deciding which tasks should be emphasized in entry-level training. These ratings, based on the judgments of senior career ladder NCOs working at operational units in the field, are collected to provide training personnel with a rank-ordering of those tasks in the job inventory considered important for first-enlistment personnel training (TE) (see Table 18 for the top-rated tasks), along with a

TABLE 13  
RELATIVE TIME SPENT ON DUTIES BY  
FIRST-ENLISTMENT PERSONNEL  
(N=97)

<u>DUTIES</u>	<u>PERCENT TIME SPENT</u>
A ORGANIZING AND PLANNING	1
B DIRECTING AND IMPLEMENTING	2
C INSPECTING AND EVALUATING	*
D TRAINING	*
E PERFORMING GENERAL ADMINISTRATIVE FUNCTIONS	13
F PERFORMING GENERAL AIRCRAFT MAINTENANCE ACTIVITIES	1
G PERFORMING GENERAL AIRCREW EGRESS MAINTENANCE ACTIVITIES	47
H MAINTAINING ADVANCED CONCEPT EJECTION SEAT (ACES II) SYSTEMS	26
I MAINTAINING F-4 EGRESS SYSTEMS	2
J MAINTAINING F-111 MODULE EGRESS SYSTEMS	5
K MAINTAINING B-52 EGRESS SYSTEMS	2
L MAINTAINING T-38 EGRESS SYSTEMS	1
M MAINTAINING T-37 OR A-37 EGRESS SYSTEMS	*

\* Less than .5 percent

# **DISTRIBUTION OF AFSC 454X2 FIRST-ENLISTMENT PERSONNEL ACROSS SPECIALTY JOBS (N= 97)**



**Figure 2**

TABLE 14  
REPRESENTATIVE TASKS PERFORMED BY  
454X2 FIRST-ENLISTMENT PERSONNEL  
(N=97)

TASKS	PERCENT MEMBERS PERFORMING
G210 ARM OR DEARM EJECTION SYSTEMS	94
G211 CLEAN EGRESS SHOP SUPPORT EQUIPMENT	88
G258 PERFORM FUNCTIONAL CHECKS OF INERTIA REELS	87
E125 MAKE ENTRIES ON AFTO FORMS 350 (REP ITEM PROCESSING TAG)	87
E126 MAKE ENTRIES ON AFTO FORMS 781A (MAINTENANCE DISCREPANCY AND WORK DOCUMENT)	86
G269 PERFORM TCTO MODIFICATIONS TO EGRESS SYSTEMS	81
G299 TRANSPORT EGRESS SYSTEMS EXPLOSIVE COMPONENTS	80
G293 REMOVE OR INSTALL INERTIA REELS, LINKAGES, CABLES, STRAPS, OR CONTROLS	80
G235 INSPECT EJECTION SEAT HEAD-RESTS	79
G252 PERFORM COCKPIT FOREIGN OBJECT INSPECTIONS	77
G219 INSPECT BALLISTIC GAS HOSES	76
G243 INSPECT INERTIA REELS, LINKAGES, CABLES, STRAPS, OR CONTROLS	75
E140 MAKE ENTRIES ON TOOL INVENTORY FORMS	74
H368 REMOVE OR INSTALL ACES II ENVIRONMENTAL SENSORS	74
G291 REMOVE OR INSTALL EJECTION SEAT SURVIVAL KITS	74
G253 PERFORM CORROSION CONTROL ON AIRCREW EGRESS SYSTEMS	73
B39 INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	73
H369 REMOVE OR INSTALL ACES II MORTAR DISCONNECT ASSEMBLIES	71
G287 REMOVE OR INSTALL EJECTION SEAT HEAD-RESTS, BACK-RESTS, LEG-RESTS, OR ARM-REST PADS	71
G288 REMOVE OR INSTALL EJECTION SEAT LAP-BELTS	71
H364 REMOVE OR INSTALL ACES II EJECTION SEAT RECOVERY PARACHUTES	70
G272 REMOVE OR INSTALL AIRCRAFT PANELS	69
G234 INSPECT EJECTION SEAT FRAMES	69
G209 ADJUST INERTIA REELS, LINKAGES, OR CONTROLS	69
G282 REMOVE OR INSTALL EJECTION SEAT CATAPULTS	67
H371 REMOVE OR INSTALL ACES II STA-PAC ASSEMBLIES	67
G257 PERFORM FUNCTIONAL CHECKS OF EJECTION SEAT LINKAGES, SUCH AS D-RINGS OR EJECTION CONTROL HANDLES	65

Average Number of Tasks Performed - 107

TABLE 15

AIRCRAFT ON WHICH EGRESS SYSTEMS ARE  
MAINTAINED BY 10 PERCENT OR MORE  
OF FIRST-ENLISTMENT PERSONNEL  
(N=97)

<u>AIRCRAFT</u>	<u>PERCENT MEMBERS RESPONDING</u>
F-16	42
F-15	32
A-10	18
B-52	15
F-4	10
F-111	10
T-38	10

TABLE 16

AEROSPACE GROUND EQUIPMENT (AGE)  
USED BY FIRST-ENLISTMENT PERSONNEL  
(N=97)

<u>AGE</u>	<u>PERCENT MEMBERS RESPONDING</u>
MAINTENANCE PLATFORM	82
CRANES	74
CREW CHIEF STANDS	65
AUXILIARY POWER UNITS	59
LITE-ALLS	56
MOBILE CRANES	55
GENERATORS	41
HOISTS	41
AIR COMPRESSORS	28
HEATERS	25
NITROGEN CARTS	24
GROUND AIR CONDITIONERS	4
CONSOLIDATED AIRCRAFT SUPPORT SYSTEMS (CASSs)	2

TABLE 17

SPECIAL TOOLS OR EQUIPMENT USED OR  
OPERATED BY 20 PERCENT OR MORE OF  
FIRST-ENLISTMENT PERSONNEL  
(N=97)

<u>SPECIAL TOOLS OR EQUIPMENT</u>	<u>PERCENT MEMBERS RESPONDING</u>
TORQUE WRENCHES	95
MULTIMETERS	85
SEAT SLINGS	78
SPECIAL HAND TOOLS	78
GROUNDING CABLES	76
ACES II SEAT SKIDS	74
PULL GAUGES	73
OHMMETERS	70
ENVIRONMENTAL SENSOR TEST SETS, TTU-415	69
PIN STRAIGHTENERS	67
SPRING SCALES	61
DEPTH GAUGES	60
BOOSTER TIP ALIGNMENT GAUGE SETS	56
SEALANT GUNS	51
SEAT RAISE BARS	47
CLEARANCE GAUGES	47
FORCE INDICATORS	46
CANOPY SLINGS	45
EJECTION CONTROL HANDLE WEDGES	43
INITIATOR SIMULATORS	41
CANOPY TRAILERS	41
SEAT SPACERS (F-16)	40
PNEUMATIC TOOLS	39
PROTRACTORS	37
MICROMETERS	35
CANOPY RAMS	35
CANOPY BRACES	34
SEAT RAISING ADAPTERS (F-15)	32
CANOPY RAISING ADAPTERS (F-15)	32
LIFTING STRAPS	30
VACUUM TEST CHAMBERS	30
CANOPY HINGE BELLCRANK RESTRAINT TOOL (F-15)	28
BALL AND CABLE SWAGE KITS	26
CANOPY HOLD-OPEN FIXTURES (A-10)	24
SEAT RAISE MAINTENANCE PINS (A-10)	20
ALTIMETERS	20

TABLE 18

## TECHNICAL TASKS RATED HIGHEST IN TRAINING EMPHASIS (TE)

TASKS	TNG EMP*	PERCENT MEMBERS PERFORMING		TASK DIFF**
		1ST JOB (N=47)	1ST ENL (N=97)	
G213 DETERMINE EGRESS SYSTEMS EXPLOSIVE COMPONENTS SERVICE-LIFE OR SHELF-LIFE	5.98	64	76	4.21
G210 ARM OR DEARM EJECTION SYSTEMS	5.90	89	94	4.52
E163 UPDATE CAMS DATA	5.51	36	46	5.92
G293 REMOVE OR INSTALL INERTIA REELS, LINKAGES, CABLES, STRAPS, OR CONTROLS	5.33	74	80	5.38
E126 MAKE ENTRIES ON AFTO FORMS 781A (MAINTENANCE DISCREPANCY AND WORK DOCUMENT)	5.22	79	86	3.01
H351 PERFORM OPERATIONAL CHECKS OF ACES II ENVIRONMENTAL SENSORS	5.18	53	61	6.09
H370 REMOVE OR INSTALL ACES II RECOVERY SEQUENCERS	5.16	68	70	6.59
G257 PERFORM FUNCTIONAL CHECKS OF EJECTION SEAT LINKAGES, SUCH AS D-RINGS OR EJECTION CONTROL HANDLES	4.96	57	65	5.58
G282 REMOVE OR INSTALL EJECTION SEAT CATAPULTS	4.94	53	67	4.41
G209 ADJUST INERTIA REELS, LINKAGES, OR CONTROLS	4.76	55	69	5.43
G219 INSPECT BALLISTIC GAS HOSES	4.69	77	76	3.81

\* Mean TE Rating is 1.62, and Standard Deviation is 1.35 (High TE = 2.97)

\*\* Average TD Rating is 5.00

measure of the difficulty of the job inventory tasks (TD) (see the highest rated tasks presented in Table 19). When combined with data on the percentages of first-enlistment personnel performing tasks, comparisons can then be made to determine if training adjustments are necessary. For example, tasks receiving high ratings on both task factors, accompanied by moderate to high percentages performing, may warrant resident training. Those tasks receiving high task factor ratings, but low percentages performing, may be more appropriately planned for OJT programs within the career ladder. Low task factor ratings may highlight tasks best omitted from training for first-enlistment personnel, but this decision must be weighed against percentages of personnel performing the tasks, command concerns, and criticality of the tasks.

To assist technical school personnel, USAFOMS has developed a computer program that incorporates these secondary factors and the percentage of first-enlistment personnel performing each task to produce an Automated Training Indicator (ATI) for each task. These indicators correspond to training decisions listed and defined in the Training Decision Logic Table found in Attachment 1, ATRC 52-22, and allow course personnel to quickly focus their attention on those tasks which are most likely to qualify for ABR course consideration.

Various lists of tasks, accompanied by TE and TD ratings, and where appropriate, ATI information, are contained in the TRAINING EXTRACT package and should be reviewed in detail by technical school personnel. (For a more detailed explanation of TE and TD ratings, see Task Factor Administration in the SURVEY METHODOLOGY section of this report.)

#### Specialty Training Standard (STS)

A comprehensive review of STS 454X2, dated June 1990, compared STS items to survey data (based on the previously mentioned assistance from technical school personnel in matching job inventory tasks to STS elements). STS paragraphs containing general knowledge information, mandatory entries, subject-matter-knowledge-only requirements, or basic supervisory responsibilities were not examined. Task knowledge and performance elements of the STS were compared against the standard set forth in AFR 8-13 (dated 1 August 1986) and AFR 8-13/ATC Supplement 1 (dated 2 March 1987), Attachment 1, paragraph A1-3c(4) (i.e., include tasks performed or knowledge required by 20 percent or more of the personnel in a skill level (criterion group) of the AFS).

Overall, the STS provides comprehensive coverage of the work performed by personnel in this career ladder, with survey data supporting most of the essential paragraphs or subparagraphs. Even though some elements did not have high percentages of personnel performing matched tasks, the fact that the supporting tasks were a part of an identifiable job being performed in the career ladder supports the retention of the STS element involving those tasks.

While the overall job coverage is satisfactory, there are a number of STS elements that require review of the 3-skill level proficiency code assigned (see Table 20). These elements reflect a dash (-) proficiency code (no



TABLE 19

## TASKS RATED HIGHEST IN DIFFICULTY

TASKS	TASK DIFF*	PERCENT MEMBERS PERFORMING			
		1ST JOB (N=47)	1ST ENL (N=97)	DAFSC 45452 (N=265)	DAFSC 45472 (N=255)
I468 TROUBLESHOOT F-4 CANOPY PNEUMATIC SYSTEMS	7.65	4	4	7	9
J508 REMOVE OR INSTALL MODULE IMPACT ATTENUATOR BAGS	7.56	9	10	6	8
H400 REMOVE OR INSTALL F-16 CANOPY TRANSPARENCIES	7.50	45	39	40	27
H394 REMOVE OR INSTALL F-15 PYROTECHNIC MODULES	7.31	19	24	24	26
K538 REMOVE OR INSTALL B-52 COLUMN STORAGE THRUSTERS	7.29	2	3	8	7
A12 DRAFT BUDGET OR FINANCIAL REQUIREMENTS	7.26	0	1	3	20
G212 DETERMINE CONDITION OF EGRESS COMPONENTS AT AIRCRAFT CRASH SITES	7.09	6	8	13	20
J512 REMOVE OR INSTALL MODULE RECOVERY PARACHUTE CATAPULTS	7.01	9	10	6	9
J519 REMOVE OR INSTALL MODULE STABILIZATION BRAKE PARACHUTES	7.00	9	9	5	8
H385 REMOVE OR INSTALL B-1B FORWARD ESCAPE HATCHES	7.00	4	4	3	4

\* Average TD Rating is 5.00

TABLE 20

## EXAMPLES OF STS ELEMENTS REQUIRING REVIEW OF 3-SKILL LEVEL PROFICIENCY CODES

STS ELEMENT (WITH SELECTED SAMPLE TASKS)	PROF CODE	PERCENT MBRS PERFORMING			TNG EMP*	TSK DIFF**
		1ST JOB (N=47)	1ST ENL (N=97)			
17a(1)(b) (EXPLOSIVE COMPONENTS) REPLACE ELECTRICALLY ACTUATED DEVICE	⊖					
H370 Remove or install ACES II recovery sequencers		68	70	5.16	6.59	
H402 Remove or install F-16 DTAs (detonation transfer assembly)		40	38	3.04	5.43	
17a(1)(c) (EXPLOSIVE COMPONENTS) REPLACE ENERGY TRANSFER LINES	⊖					
G295 Remove or install SMDCs (shielded mild detonating cord)		36	41	3.94	6.24	
17a(2)(b) (EXPLOSIVE COMPONENTS) INSPECT ELECTRICALLY ACTUATED DEVICES	⊖					
H314 Inspect ACES II recovery sequencers		57	66	4.20	5.51	
17a(2)(d) INSPECT EXPLOSIVE PANELS	⊖					
G242 Inspect explosive panels, pyrotechnic panels, or access covers		40	44	3.80	5.60	

\* Mean TE Rating is 1.62, and Standard Deviation is 1.35 (High TE = 2.97)

\*\* Average TD Rating is 5.00

TABLE 20 (CONTINUED)

## EXAMPLES OF STS ELEMENTS REQUIRING REVIEW OF 3-SKILL LEVEL PROFICIENCY CODES

STS ELEMENT (WITH SELECTED SAMPLE TASKS)	PROF CODE	PERCENT MBRS PERFORMING			TNG EMP*	TSK DIFF**
		1ST JOB (N=47)	1ST ENL (N=97)			
18b(3) OPERATIONALLY CHECK CANOPY ELECTRICAL SYSTEMS	(-)					
G256 Perform functional checks of canopy systems		40	45	3.27	6.27	
18d(3) REPLACE ELECTRICAL COMPONENTS	(-)					
G275 Remove or install canopy actuators		30	34	2.84	5.18	
18e(3) ADJUST ELECTRICAL COMPONENTS	(-)					
G203 Adjust canopy actuators		30	34	3.12	5.53	
19c(1) (EJECTION SEATS) REPLACE SEAT COMPONENTS	(-)					
G293 Remove or install inertia reels, linkages, cables, straps, or controls		74	80	5.33	5.38	
H372 Remove or install ACES II STA-PAC assembly components		57	60	4.12	5.43	

\* Mean TE Rating is 1.62, and Standard Deviation is 1.35 (High TE = 2.97)

\*\* Average TD Rating is 5.00

training provided in the ABR course) in the 3-skill level column of the STS. Yet, a review of the survey data pertaining to tasks matched to these elements (very high TE ratings, above average TD ratings, and sufficiently high percentages of first-job or first-enlistment members performing) suggests that task knowledge or task performance coding may be more appropriate and justifiable.

Tasks not matched to any element of the STS are listed at the end of the STS computer listing. These were reviewed to determine if there were any tasks concentrated around any particular functions or jobs. No particular trends were noted. Examples of technical tasks performed by 20 percent or more respondents of the STS target groups, but which were not referenced to any STS element, are displayed in Table 21. Training personnel and SMEs should review these and other eligible unreferenced tasks to determine if inclusion in the STS is justified.

#### Plan of Instruction (POI)

Based on the previously mentioned assistance from the technical school SMEs in matching inventory tasks to the 3ABR45432 000 POI, dated 13 January 1992, a computer product was generated displaying the results of the matching process. Information furnished for consideration includes percent members performing data for first-job (1-24 months TAFMS) and first-enlistment (1-48 months TAFMS) personnel, as well as TE and TD ratings for individual tasks.

POI blocks, units of instruction, and criterion objectives were compared against the standard set forth in Attachment 1, ATCR 52-22, dated 17 February 1989 (30 percent or more of the criterion first-enlistment group performing tasks trained, along with sufficiently high TE and TD ratings on those tasks). Per this guidance, tasks trained in the course which do not meet these criteria must be considered for elimination from the formal course, if not justified on some other acceptable basis.

Review of the tasks matched to the POI reveals that most blocks and units of instruction are well supported by survey data based on the percentages of first-job or first-enlistment airmen performing tasks or high TE or TD ratings for pertinent tasks. There are four units of instruction, however, which contain objectives that are not supported by survey data and require further evaluation by training personnel and SMEs (see display in Table 22).

Two of the units of instruction in Block IV (Unit 3 - Escape Hatch System and Unit 4 - Module Egress System, accounting for 15 hours of course time) appear to be subject-matter-knowledge presentations and have no performance tasks matched to them. However, review of the background information responses to the USAF Job Inventory indicates that less than 30 percent of the airmen in their first-job or first-enlistment responded to options pertaining to egress system maintenance on B-52 (Unit 3) or F-111 series aircraft (Unit 4). Since these responses are below minimum ATC standards, the data suggest that these units of instruction should be reviewed to determine if retention in the ABR course is justified.

TABLE 21

EXAMPLES OF TECHNICAL TASKS PERFORMED BY 20 PERCENT OR  
MORE GROUP MEMBERS AND NOT REFERENCED TO THE STS

TASKS	PERCENT MEMBERS PERFORMING					TNG EMP*	TSK DIFF**
	1ST JOB (N=47)	1ST ENL (N=97)	DAFSC 45452 (N=265)	DAFSC 45472 (N=255)			
G210 ARM OR DEARM EJECTION SYSTEMS	89	94	91	79		5.90	4.52
H313 INSPECT ACES II RECOVERY PARACHUTES	57	64	67	62		3.10	4.54
H351 PERFORM OPERATIONAL CHECKS OF ACES II ENVIRONMENTAL SENSORS	53	61	65	56		5.18	6.09
G244 INSPECT PYROTECHNIC MODULES	28	32	31	29		2.61	6.40
E148 REVIEW CORE AUTOMATED MAINTENANCE SYSTEM (CAMS) PRODUCTS	26	37	42	63		3.57	5.24
G255 INSPECT CANOPY TRANSPARENT SURFACES	26	30	40	32		3.06	5.22
G303 TROUBLESHOOT EJECTION SEAT POSITIONING MECHANISMS, SUCH AS CABLES, ACTUATORS OR THRUSTERS	19	38	51	50		3.45	6.02
H352 PERFORM OPERATIONAL CHECKS OF ACES II STA-PAC ASSEMBLIES	40	46	54	45		4.41	5.98
H400 REMOVE OR INSTALL F-16 CANOPY TRANSPARENCIES	45	39	40	27		3.49	7.50

\* Mean TE Rating is 1.62, and Standard Deviation is 1.35 (High TE = 2.97)

\*\* Average TD Rating is 5.00

TABLE 22

POI BLOCKS REFLECTING LOW FIRST-ENLISTMENT TASK PERFORMANCE  
(LESS THAN 30 PERCENT RESPONDING)

POI REFERENCE BLOCK - UNIT	TIME (HOURS)	SELECTED SAMPLE TASKS	PERCENT MBRS PERFORMING				TNG EMP*	TSK DIFF**
			1ST JOB (N=47)	1ST ENL (N=97)				
I	5	1 E121 MAKE ENTRIES ON AFTO FORMS 22 (TECHNICAL ORDER SYSTEM PUBLICATION IMPROVEMENT REPORT AND REPLY)	17	24		3.41	4.69	
III	2f	6 I444 PERFORM OPERATIONAL CHECKS OF F-4 TIME RELEASE MECHANISMS (TRMs)	9	6		1.08	4.83	
IV	3	9 NO TASKS MATCHED						
		MAXIMUM RESPONSE TO B-52 AIRCRAFT EGRESS SYSTEMS MAINTENANCE OPTION:	21	15		-	-	
IV	4	6 NO TASKS MATCHED						
		MAXIMUM RESPONSE TO F-111 SERIES AIRCRAFT EGRESS SYSTEMS MAINTENANCE OPTION:	11	10		-	-	

\* Mean TE Rating is 1.62, and Standard Deviation is 1.35 (High TE = 2.97)

\*\* Average TD Rating is 5.00

Additionally, some apparently significant tasks with high TE ratings, above average TD ratings, and 30 percent or more first-job or first-enlistment personnel performing were not matched to any POI blocks of instruction. This combination of factors indicates formal training may be required and resident technical training could be supported. Table 23 lists a sampling of a number of such tasks. Subject-matter experts and training personnel should perform an in-depth review of these and other qualifying tasks contained in the "Tasks Not Referenced" section of the previously mentioned computer printout to determine the necessity for training and the most effective method to accomplish it.

### JOB SATISFACTION ANALYSIS

An examination of the job satisfaction indicators of various groups can give career ladder managers a better understanding of some of the factors which may affect the job performance of airmen in the career ladder. Attitude questions covering job interest, perceived utilization of talents and training, sense of accomplishment from work, and reenlistment intentions were included in the survey booklet to provide indications of job satisfaction. Table 24 presents job satisfaction data for AFSC 454X2 TAFMS groups, together with data for a comparative sample of Mission Equipment Maintenance career ladders surveyed in 1992. These data can give a relative measure of how the job satisfaction of AFSC 454X2 personnel compares with other similar Air Force specialties. An indication of how job satisfaction perceptions have changed over time is provided in Table 25, where TAFMS group data for 1992 survey respondents are presented, along with data from respondents to the last occupational survey involving this career ladder, published in 1984. Finally, Table 26 presents job satisfaction responses from personnel in the specialty jobs discussed in the SPECIALTY JOBS section of this report. An examination of these data can show how overall job satisfaction may be influenced by the type of job performed.

Review of Table 24 reflects that responses from AFSC 454X2 TAFMS groups regarding job interest, use of talents, use of training, and reenlistment intentions are all quite positive (65 percent or more) and are generally higher than most of the comparative groups.

Comparison of job satisfaction indicator responses of current survey TAFMS groups to those in the 1984 survey (see Table 25) indicates that positive responses are almost all higher than those for 1984 corresponding groups. The most notable exception is the somewhat lower positive response concerning reenlistment intentions by the current survey 97+ months group.

Review of the job satisfaction data for personnel in the jobs identified in the SPECIALTY JOBS analysis (see Table 26) reveals that airmen responded positively to all the indicators listed (responses to training utilization were quite high). Additionally, review of the job inventory write-in comments from survey sample personnel further supports the high job satisfaction indications for the overall career ladder.

TABLE 23

SAMPLING OF TASKS NOT REFERENCED TO 3ABR45432 000 POI BLOCKS  
(30 PERCENT OR MORE PERFORMING)

	PERCENT				TASK DIFF**
	MBRS PERFORMING			TNG	
EXAMPLES OF TASKS NOT REFERENCED	1ST JOB (N=47)	1ST ENL (N=97)		EMP*	
H400 REMOVE OR INSTALL F-16 CANOPY TRANSPARENCIES	45	39		3.49	7.50
G297 RIG OR ADJUST CANOPIES	36	38		3.14	6.72
H370 REMOVE OR INSTALL ACES II RECOVERY SEQUENCERS	68	70		5.16	6.59
G295 REMOVE OR INSTALL SMDCS	36	41		3.94	6.24
H351 PERFORM OPERATIONAL CHECKS OF ACES II ENVIRONMENTAL SENSORS	53	61		5.18	6.09
G303 TROUBleshoot EJECTION SEAT POSITIONING MECHANISMS, SUCH AS CABLES, ACTUATORS, OR THRUSTERS	19	38		3.45	6.02
H352 PERFORM OPERATIONAL CHECKS OF ACES II STA-PAC ASSEMBLIES	40	46		4.41	5.98
G242 INSPECT EXPLOSIVE PANELS, PYROTECHNIC PANELS, OR ACCESS COVERS	40	44		3.80	5.60
G203 ADJUST CANOPY ACTUATORS	30	34		3.12	5.53
H314 INSPECT ACES II RECOVERY SEQUENCERS	57	66		4.20	5.51
H372 REMOVE OR INSTALL ACES II STA-PAC ASSEMBLY COMPONENTS	57	60		4.12	5.43
G245 INSPECT SHIELDED MILD DETONATION CORDS (SMDCS)	40	43		3.96	5.42
H365 REMOVE OR INSTALL ACES II EJECTION SEAT SEQUENCE-START SWITCHES	38	47		3.61	5.42
G208 ADJUST EMERGENCY HARNESS RELEASE MECHANISMS	26	42		3.73	5.33
G225 INSPECT CANOPY TRANSPARENT SURFACES	26	30		3.06	5.22
H312 INSPECT ACES II PITCH STABILIZATION CONTROL (STA-PAC) ASSEMBLIES	57	67		4.12	5.19
G271 REMOVE OR INSTALL ACTUATORS OR BALLISTIC REMOVERS	55	63		3.86	5.12

\* Mean TE Rating is 1.62, and Standard Deviation is 1.35 (High TE = 2.97)

\*\* Average TD Rating is 5.00



TABLE 24

COMPARISON OF JOB SATISFACTION INDICATORS BY TAFMS GROUPS  
(PERCENT MEMBERS RESPONDING)\*

	<u>1-48 MOS TAFMS</u>		<u>49-96 MOS TAFMS</u>		<u>97+ MOS TAFMS</u>	
	COMP		COMP		COMP	
	454X2	SAMPLE** (N=97)	454X2	SAMPLE** (N=135)	454X2	SAMPLE** (N=325)
	82	74	68	72	67	75
INTERESTING	14	16	16	17	18	16
SO-SO	2	10	16	11	15	9
DULL						
<u>PERCEIVED UTILIZATION OF TALENTS:</u>						
FAIRLY WELL TO PERFECTLY	78	75	92	71	80	75
LITTLE OR NOT AT ALL	21	20	7	20	19	18
<u>PERCEIVED UTILIZATION OF TRAINING:</u>						
FAIRLY WELL TO PERFECTLY	97	85	93	81	89	79
LITTLE OR NOT AT ALL	3	14	7	19	10	21
<u>REENLISTMENT INTENTIONS:</u>						
YES, OR PROBABLY YES	73	58	84	70	66	75
NO, OR PROBABLY NO	27	41	16	30	19	7
PLAN TO RETIRE	0	0	0	0	14	18

\* Columns may not add to 100 percent due to nonresponse or rounding

\*\* Comparative sample of Mission Equipment Maintenance career ladders surveyed in 1992 (includes AFSCs 305X4, 404X0, 411X0A, 452X5, 454X5, 454X6, 457X0, 457X2, and 463X0)

TABLE 25

COMPARISON OF CURRENT SURVEY AND 1984 TAFMS GROUPS  
(PERCENT MEMBERS RESPONDING POSITIVELY)

	<u>1-48 MOS TAFMS</u>		<u>49-96 MOS TAFMS</u>		<u>97+ MOS TAFMS</u>	
	1992	1984	1992	1984	1992	1984
	(N=97)	(N=344)	(N=135)	(N=228)	(N=325)	(N=278)
<u>JOB SATISFACTION INFORMATION:</u>						
JOB FAIRLY INTERESTING OR BETTER	82	86	68	58	67	68
TALENTS UTILIZED FAIRLY WELL OR BETTER	78	69	92	70	80	78
TRAINING UTILIZED FAIRLY WELL OR BETTER	97	93	93	88	89	88
FAVORABLY CONSIDERING REENLISTMENT	73	64	84	78	66	78

TABLE 26

COMPARISONS OF JOB SATISFACTION INDICATORS BY SPECIALTY JOBS  
(PERCENT MEMBERS RESPONDING)\*

	ACES II EGRESS SYS MAINT (N=291)	F-4 EGRESS SYS MAINT (N=36)	B-52 EGRESS SYS MAINT (N=30)	U-2/TR-1 EGRESS SYS MAINT (N=9)	T/A-37 & T-38 EGRESS SYS MAINT (N=5)
<u>EXPRESSED JOB INTEREST:</u>					
INTERESTING	69	58	67	56	100
SO-SO	16	31	23	11	0
DULL	14	11	10	33	0
<u>PERCEIVED USE OF TALENTS:</u>					
FAIRLY WELL TO PERFECTLY LITTLE OR NOT AT ALL	81 19	83 17	67 33	78 22	100 0
<u>PERCEIVED USE OF TRAINING:</u>					
FAIRLY WELL TO PERFECTLY LITTLE OR NOT AT ALL	92 7	97 3	83 17	100 0	100 0
<u>SENSE OF ACCOMPLISHMENT FROM JOB:</u>					
SATISFIED	78	75	63	67	80
NEUTRAL	9	8	20	11	20
DISSATISFIED	14	17	17	22	0
<u>REENLISTMENT INTENTIONS:</u>					
YES, OR PROBABLY YES	74	83	57	89	100
NO, OR PROBABLY NO	22	11	37	11	0
PLAN TO RETIRE	4	6	7	0	0

\* Columns may not add to 100 percent due to nonresponse or rounding

TABLE 26 (CONTINUED)

COMPARISONS OF JOB SATISFACTION INDICATORS BY SPECIALTY JOBS  
(PERCENT MEMBERS RESPONDING)\*

	F-111 MOD EGRESS SYS MAINTENANCE (N=27)	FIRST-LINE SUPERVISION (N=100)	QUALITY ASSURANCE (N=6)	TRAINING (N=6)
<u>EXPRESSED JOB INTEREST:</u>				
INTERESTING	78	73	100	83
SO-SO	15	15	0	0
DULL	4	12	0	17
<u>PERCEIVED USE OF TALENTS:</u>				
FAIRLY WELL TO PERFECTLY	74	87	100	83
LITTLE OR NOT AT ALL	22	14	0	17
<u>PERCEIVED USE OF TRAINING:</u>				
FAIRLY WELL TO PERFECTLY	89	93	100	100
LITTLE OR NOT AT ALL	7	7	0	0
<u>SENSE OF ACCOMPLISHMENT FROM JOB:</u>				
SATISFIED	63	76	83	83
NEUTRAL	22	11	0	17
DISSATISFIED	11	13	17	0
<u>REENLISTMENT INTENTIONS:</u>				
YES, OR PROBABLY YES	70	70	83	50
NO, OR PROBABLY NO	11	17	0	50
PLAN TO RETIRE	15	13	17	0

\* Columns may not add to 100 percent due to nonresponse or rounding

When there are serious problems in a career ladder, survey respondents are usually quite free with write-in comments to complain about perceived problems in the field. Twenty-nine percent of the survey sample used the write-in feature to convey some type of information, yet only 6 percent of the comments received (representing less than 2 percent of the total sample) could be characterized as complaints. No particular trends were noted among the few comments received.

The high percentages of positive responses in these comparisons reflect a career ladder where personnel appear to be well satisfied with their jobs.

### SPECIAL ANALYSIS

In response to requests for a variety of different types of information by the Air Staff functional manager and technical training personnel, a series of special background questions were included in the survey instrument. The types of questions varied and included the following items: percentages of personnel who augmented other AFSCs or teams while deployed in support of Operation DESERT SHIELD or DESERT STORM; percentage of time spent by personnel augmenting other AFSCs or teams while deployed in support of Operation DESERT SHIELD/STORM; an indication of the level of satisfaction concerning training received for the performance of general aircraft maintenance tasks; and an indication of the length of time required to receive field training detachment (FTD) certification training for aircraft maintained. The response data to these various questions are compiled in table format (by time and skill-level groups) and are presented in Appendix B (Tables B1 through B4). A brief summary of these data (keying on the 5-skill level members) is presented below.

Review of these special questions indicates that the highest percentages of the 5-skill level personnel who participated in the augmentation program (only 25 percent) were in support of the Aircraft Fuels Systems specialty (AFSC 454X3, 11 percent), Tactical Aircraft Maintenance specialty (AFSC 452X4, 7 percent), Launch or Recovery Crew (14 percent), and the Aircraft Tow Team (9 percent) (see Table B1).

The data presented in Table B2 reveal that while 25 percent of the 5-skill level members were involved in the augmentation of other AFSCs or teams, only 16 percent of the group spent 20 percent or more of their time doing so.

Although 37 percent of the group members reported they did not perform general aircraft maintenance tasks (1 percent did not respond), most of the respondents indicated they were satisfied with the training received (see Table B3).

Review of Table B4 indicates that 54 percent of the 5-skill level airmen received FTD certification training on their current aircraft in less than 3 months. Seventy-nine percent completed the training in less than 6 months.

## IMPLICATIONS

This survey was requested by training personnel to review the structure of the career ladder since Rivet Workforce changes were implemented and to obtain current task and equipment data.

Survey results described in the SPECIALTY JOBS section clearly show a transition, whereby the majority of aircrew egress system maintainers are involved with maintenance of the ACES II egress system instead of the system on the F-4 aircraft.

This evolution also has an effect on the training program. Although the STS covers the range of various jobs identified in the career ladder structure, there are a number of elements that require review of the 3-skill level proficiency codes assigned. Additionally, there were a number of tasks not matched to the STS which require review for possible inclusion in the STS. Comparison of the survey data to the POI for the ABR course revealed that two units of instruction dealing with the B-52 and F-111 egress systems did not meet the minimum percent members performing standard for retention in the ABR POI. Additionally, a number of tasks performed by sufficient numbers of first-enlistment airmen and reflecting high TE and above average TD ratings should be reviewed for possible inclusion in the ABR course.

**APPENDIX A**  
**SELECTED REPRESENTATIVE TASKS PERFORMED**  
**BY SPECIALTY JOB GROUPS**

TABLE I

GROUP ID NUMBER AND TITLE: GP0035, ADVANCED CONCEPT EJECTION SEAT (ACES II)  
 EGRESS SYSTEMS MAINTENANCE  
 GROUP SIZE: 291 PERCENT OF SAMPLE: 52%  
 PREDOMINANT GRADE: E-4/E-5 AVERAGE TICF: 93 MONTHS  
 AVERAGE TAFMS: 98 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

REPRESENTATIVE TASKS	PERCENT MEMBERS PERFORMING
H368 REMOVE OR INSTALL ACES II ENVIRONMENTAL SENSORS	97
G210 ARM OR DEARM EJECTION SYSTEMS	96
H369 REMOVE OR INSTALL ACES II MORTAR DISCONNECT ASSEMBLIES	96
H311 INSPECT ACES II ENVIRONMENTAL SENSORS	95
G235 INSPECT EJECTION SEAT HEAD-RESTS	95
H314 INSPECT ACES II RECOVERY SEQUENCERS	95
H370 REMOVE OR INSTALL ACES II RECOVERY SEQUENCERS	95
G236 INSPECT EJECTION SEAT LAP-BELTS	94
H307 INSPECT ACES II DROGUE SEVERANCE CUTTERS	93
H315 INSPECT ACES II SEAT SLINGS	93
H308 INSPECT ACES II EJECTION-CONTROL SAFETY LEVERS	93
H364 REMOVE OR INSTALL ACES II EJECTION SEAT RECOVERY PARACHUTES	91
G258 PERFORM FUNCTIONAL CHECKS OF INERTIA REELS	91
G233 INSPECT EJECTION SEAT EMERGENCY OXYGEN SYSTEMS	91
G299 TRANSPORT EGRESS SYSTEMS EXPLOSIVE COMPONENTS	90
G219 INSPECT BALLISTIC GAS HOSES	90
H362 REMOVE OR INSTALL ACES II DROGUE SEVERANCE CUTTERS	89
H313 INSPECT ACES II RECOVERY PARACHUTES	89
G288 REMOVE OR INSTALL EJECTION SEAT LAP-BELTS	89
H371 REMOVE OR INSTALL ACES II STA-PAC ASSEMBLIES	89
H310 INSPECT ACES II EMERGENCY MANUAL CHUTE DEPLOYMENT SYSTEMS	88
G291 REMOVE OR INSTALL EJECTION SEAT SURVIVAL KITS	88
G283 REMOVE OR INSTALL EJECTION SEAT DROGUE GUNS	88
H348 PERFORM OPERATIONAL CHECKS OF ACES II EJECTION SEAT SEQUENCE-START SWITCHES	87
E126 MAKE ENTRIES ON AFTO FORMS 781A (MAINTENANCE DISCREPANCY AND WORK DOCUMENT)	87
H351 PERFORM OPERATIONAL CHECKS OF ACES II ENVIRONMENTAL SENSORS	86
G253 PERFORM CORROSION CONTROL ON AIRCREW EGRESS SYSTEMS	85
G266 PERFORM PERIODIC INSPECTIONS ON EGRESS SYSTEMS	80
G207 ADJUST EJECTION SEAT COMPONENTS OR LINKAGES	78
G281 REMOVE OR INSTALL EGRESS SYSTEMS LINES, TUBES, OR HOSES	73
H352 PERFORM OPERATIONAL CHECKS OF ACES II STA-PAC ASSEMBLIES	69
G262 PERFORM OPERATIONAL CHECKS OF LAP-BELT RELEASE MECHANISMS	67



TABLE II

GROUP ID NUMBER AND TITLE: ST0079, F-4 EGRESS SYSTEM MAINTENANCE  
 GROUP SIZE: 36 PERCENT OF SAMPLE: 7%  
 PREDOMINANT GRADE: E-5 AVERAGE TICF: 111 MONTHS  
 AVERAGE TAFMS: 120 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

REPRESENTATIVE TASKS	PERCENT MEMBERS PERFORMING
I446 REMOVE OR INSTALL F-4 AFT EJECTION SEAT BUCKETS	100
E126 MAKE ENTRIES ON AFTO FORMS 781A (MAINTENANCE DISCREPANCY AND WORK DOCUMENT)	100
I447 REMOVE OR INSTALL F-4 AFT EJECTION SEAT BEAMS	100
G210 ARM OR DEARM EJECTION SYSTEMS	100
I419 INSPECT F-4 EJECTION SEAT BUCKETS OR SEAT BUCKET COMPONENTS	100
G236 INSPECT EJECTION SEAT LAP-BELTS	100
I462 REMOVE OR INSTALL F-4 EJECTION SEAT EXPLOSIVE CARTRIDGES	100
I460 REMOVE OR INSTALL F-4 EJECTION SEAT CATAPULT GUNS	100
G288 REMOVE OR INSTALL EJECTION SEAT LAP-BELTS	100
I466 REMOVE OR INSTALL F-4 FORWARD EJECTION SEAT BUCKETS	100
I458 REMOVE OR INSTALL F-4 EJECTION SEAT AIRCREW PERSONAL PARACHUTES	100
I435 PERFORM F-4 INERTIA REEL QUICK-DISCONNECT PULL TESTS	100
I423 INSPECT F-4 EJECTION SEAT MAIN BEAMS OR MAIN BEAM COMPONENTS	97
G258 PERFORM FUNCTIONAL CHECKS OF INERTIA REELS	97
I422 INSPECT F-4 EJECTION SEAT EXPLOSIVE CARTRIDGES	97
G238 INSPECT EJECTION SEAT LINKAGES	97
I459 REMOVE OR INSTALL F-4 EJECTION SEAT BUCKET COMPONENTS	97
G284 REMOVE OR INSTALL EJECTION SEAT DROGUE-CHUTES	97
G233 INSPECT EJECTION SEAT EMERGENCY OXYGEN SYSTEMS	97
I467 REMOVE OR INSTALL F-4 FORWARD EJECTION SEAT MAIN BEAMS	97
I463 REMOVE OR INSTALL F-4 EJECTION SEAT MAIN BEAM COMPONENTS	97
G262 PERFORM OPERATIONAL CHECKS OF LAP-BELT RELEASE MECHANISMS	97
G282 REMOVE OR INSTALL EJECTION SEAT CATAPULTS	94
I433 PERFORM F-4 EMERGENCY PNEUMATIC SYSTEM FUNCTIONAL CHECKS	94
G207 ADJUST EJECTION SEAT COMPONENTS OR LINKAGES	92
I436 PERFORM F-4 MANUAL OVERRIDE TESTS	89
G208 ADJUST EMERGENCY HARNESS RELEASE MECHANISMS	86
G302 TROUBLESHOOT CANOPY MECHANICAL SYSTEMS	83
I456 REMOVE OR INSTALL F-4 CANOPY THRUSTERS	81
G272 REMOVE OR INSTALL AIRCRAFT PANELS	75
G274 REMOVE OR INSTALL CANOPIES	72

TABLE III

GROUP ID NUMBER AND TITLE: GP0029, B-52 EGRESS SYSTEM MAINTENANCE  
 GROUP SIZE: 30 PERCENT OF SAMPLE: 5%  
 PREDOMINANT GRADE: E-5/E-4 AVERAGE TICF: 75 MONTHS  
 AVERAGE TAFMS: 82 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

<u>REPRESENTATIVE TASKS</u>	<u>PERCENT MEMBERS PERFORMING</u>
K541 REMOVE OR INSTALL B-52 ESCAPE HATCHES	100
K537 RAISE OR LOWER B-52 EJECTION SEATS	97
K532 INSPECT B-52 HATCH COMPONENTS	97
K550 SYNCHRONIZE B-52 SEAT-TILT OR HORIZONTAL ACTUATORS	97
G264 PERFORM OPERATIONAL CHECKS OF SEAT ACTUATORS	93
G219 INSPECT BALLISTIC GAS HOSES	93
K539 REMOVE OR INSTALL B-52 DOWNWARD EJECTIONS SEATS	93
K536 PERFORM OPERATIONAL CHECKS OF B-52 HATCH UNLOCK-WARNING-LIGHT SYSTEMS	93
G209 ADJUST INERTIA REELS, LINKAGES, OR CONTROLS	93
G210 ARM OR DEARM EJECTION SYSTEMS	90
K552 TROUBLESHOOT B-52 HATCH WARNING-LIGHT SYSTEMS	90
K529 ADJUST B-52 HATCH LATCHES	90
K535 PERFORM OPERATIONAL CHECKS OF B-52 HATCH SYSTEMS	87
E125 MAKE ENTRIES ON AFTO FORMS 350 (REP ITEM PROCESSING TAG)	87
K530 ADJUST HATCH WARNING MICRO-SWITCHES	87
K545 REMOVE OR INSTALL B-52 LEG-GUARD THRUSTERS	87
E126 MAKE ENTRIES ON AFTO FORMS 781A (MAINTENANCE DISCREPANCY AND WORK DOCUMENT)	83
G294 REMOVE OR INSTALL SEAT POSITIONING ACTUATORS	83
K551 TROUBLESHOOT B-52 HATCH MECHANICAL COMPONENTS	83
G207 ADJUST EJECTION SEAT COMPONENTS OR LINKAGES	83
G266 PERFORM PERIODIC INSPECTIONS ON EGRESS SYSTEMS	80
G293 REMOVE OR INSTALL INERTIA REELS, LINKAGES, CABLES, STRAPS, OR CONTROLS	80
G290 REMOVE OR INSTALL EJECTION SEAT ROTARY ACTUATORS	80
G282 REMOVE OR INSTALL EJECTION SEAT CATAPULTS	80
K548 REMOVE OR INSTALL B-52 UPWARD EJECTION SEATS	77
G258 PERFORM FUNCTIONAL CHECKS OF INERTIA REELS	77
G235 INSPECT EJECTION SEAT HEAD-RESTS	77
G253 PERFORM CORROSION CONTROL ON AIRCREW EGRESS SYSTEMS	73
K534 PERFORM OPERATIONAL CHECKS OF B-52 EJECTION SEAT MECHANISMS	73
K533 PERFORM AERODYNAMIC SEALING OF B-52 HATCH LIFTERS	67
G248 LUBRICATE EJECTION SEAT LINKAGE OR COMPONENTS	63

TABLE IV

GROUP ID NUMBER AND TITLE: ST0118, U-2/TR-1 EGRESS SYSTEMS MAINTENANCE  
 GROUP SIZE: 9 PERCENT OF SAMPLE: 2%  
 PREDOMINANT GRADE: E-4 AVERAGE TICF: 97 MONTHS  
 AVERAGE TAFMS: 99 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

REPRESENTATIVE TASKS	PERCENT MEMBERS PERFORMING
G282 REMOVE OR INSTALL EJECTION SEAT CATAPULTS	100
G219 INSPECT BALLISTIC GAS HOSES	100
G257 PERFORM FUNCTIONAL CHECKS OF EJECTION SEAT LINKAGES, SUCH AS D-RINGS OR EJECTION CONTROL HANDLES	100
G284 REMOVE OR INSTALL EJECTION SEAT DROGUE-CHUTES	100
G292 REMOVE OR INSTALL EJECTION SYSTEM MECHANICAL- OR PRESSURE- OPERATED INITIATORS	100
G253 PERFORM CORROSION CONTROL ON AIRCREW EGRESS SYSTEMS	100
E124 MAKE ENTRIES ON AFTO FORMS 349 (MAINTENANCE DATA COLLECTION RECORD)	100
E126 MAKE ENTRIES ON AFTO FORMS 781A (MAINTENANCE DISCREPANCY AND WORK DOCUMENT)	100
G262 PERFORM OPERATIONAL CHECKS OF LAP-BELT RELEASE MECHANISMS	100
G236 INSPECT EJECTION SEAT LAP-BELTS	100
G235 INSPECT EJECTION HEAD-RESTS	100
G211 CLEAN EGRESS SHOP SUPPORT EQUIPMENT	100
G283 REMOVE OR INSTALL EJECTION SEAT DROGUE GUNS	100
G287 REMOVE OR INSTALL EJECTION SEAT HEAD-RESTS, BACK-RESTS, LEG-RESTS, OR ARM-REST PADS	100
G276 REMOVE OR INSTALL CANOPY EXTERNAL OR INTERNAL JETTISON CABLES	100
G234 INSPECT EJECTION SEAT FRAMES	89
G228 INSPECT EGRESS SYSTEM BALLISTIC COMPONENTS, OTHER THAN EXPLOSIVE PANELS OR LINES	89
G288 REMOVE OR INSTALL EJECTION SEAT LAP-BELTS	89
G221 INSPECT CANOPY EXTERNAL OR INTERNAL JETTISON CABLES	89
G281 REMOVE OR INSTALL EGRESS SYSTEMS LINES, TUBES, OR HOSES	89
G289 REMOVE OR INSTALL EJECTION SEAT LEG GUARDS, BRACES, OR RESTRAINT MECHANISMS	78
G271 REMOVE OR INSTALL ACTUATORS OR BALLISTIC REMOVERS	78
G277 REMOVE OR INSTALL CANOPY SYSTEMS CHECK-VALVES	78
G270 PURGE EGRESS SYSTEMS LINES OR HOSES	67
G290 REMOVE OR INSTALL EJECTION SEAT ROTARY ACTUATORS	67
G220 INSPECT CANOPY CHECK-VALVES	56

TABLE V

GROUP ID NUMBER AND TITLE: ST0128, T/A-37 AND T-38 EGRESS SYSTEMS MAINTENANCE  
 GROUP SIZE: 5 PERCENT OF SAMPLE: 1%  
 PREDOMINANT GRADE: E-4 AVERAGE TICF: 83 MONTHS  
 AVERAGE TAFMS: 91 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

<u>REPRESENTATIVE TASKS</u>	<u>PERCENT MEMBERS PERFORMING</u>
G210 ARM OR DEARM EJECTION SYSTEMS	100
E126 MAKE ENTRIES ON AFTO FORMS 781A (MAINTENANCE DISCREPANCY AND WORK DOCUMENT)	100
G219 INSPECT BALLISTIC GAS HOSES	100
G239 INSPECT EJECTION SEAT PARACHUTE OR DROGUE-CHUTE HARNESSSES, CASES, OR LINES	100
G236 INSPECT EJECTION SEAT LAP-BELTS	100
G258 PERFORM FUNCTIONAL CHECKS OR INERTIA REELS	100
G240 INSPECT EJECTION SEAT POSITIONING ACTUATORS	100
G257 PERFORM FUNCTIONAL CHECKS OF EJECTION SEAT LINKAGES, SUCH AS D-RINGS OR EJECTION CONTROL HANDLES	100
G263 PERFORM OPERATIONAL CHECKS OF LEG GUARDS, BRACES, OR RESTRAINT MECHANISMS	100
G253 PERFORM CORROSION CONTROL ON AIRCREW EGRESS SYSTEMS	100
G207 ADJUST EJECTION SEAT COMPONENTS OR LINKAGES	100
G262 PERFORM OPERATIONAL CHECKS OF LAP-BELT RELEASE MECHANISMS	100
G274 REMOVE OR INSTALL CANOPIES	100
G256 PERFORM FUNCTIONAL CHECKS OF CANOPY SYSTEMS	100
M583 REMOVE OR INSTALL T-37 EJECTION SEATS	100
G284 REMOVE OR INSTALL EJECTION SEAT DROGUE-CHUTES	100
G281 REMOVE OR INSTALL EGRESS SYSTEMS LINES, TUBES, OR HOSES	100
G288 REMOVE OR INSTALL EJECTION SEAT LAP-BELTS	100
G282 REMOVE OR INSTALL EJECTION SEAT CATAPULTS	100
G292 REMOVE OR INSTALL EJECTION SYSTEM MECHANICAL- OR PRESSURE-OPERATED INITIATORS	100
G209 ADJUST INERTIA REELS, LINKAGES, OR CONTROLS	100
G293 REMOVE OR INSTALL INERTIA REELS, LINKAGES, CABLES, STRAPS, OR CONTROLS	100
G283 REMOVE OR INSTALL EJECTION SEAT DROGUE GUNS	100
L571 REMOVE OR INSTALL T-38 EJECTION SEATS	80
L569 REMOVE OR INSTALL T-38 DROGUE-CHUTE HARNESSSES	80
L568 REMOVE OR INSTALL T-38 CANOPY THRUSTERS	80
M587 REMOVE OR INSTALL T-37 OR A-37 CANOPY THRUSTERS	80
M591 REMOVE OR INSTALL T-37 OR A-37 EJECTION SEAT LEG-BRACES	80

TABLE VI

GROUP ID NUMBER AND TITLE: ST0049, F-111 MODULE EGRESS SYSTEM MAINTENANCE  
 GROUP SIZE: 27 PERCENT OF SAMPLE: 5%  
 PREDOMINANT GRADE: E-5/E-3 AVERAGE TICF: 103 MONTHS  
 AVERAGE TAFMS: 118 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

REPRESENTATIVE TASKS	PERCENT MEMBERS PERFORMING
J475 INSPECT BOOSTER TIPS	100
J513 REMOVE OR INSTALL MODULE RECOVERY PARACHUTES	100
J512 REMOVE OR INSTALL MODULE RECOVERY PARACHUTE CATAPULTS	100
J504 REMOVE OR INSTALL MODULE FLOTATION BAGS	100
J499 REMOVE OR INSTALL BILGE PUMPS	100
J494 REMOVE OR INSTALL AUXILIARY FLOTATION BAGS	100
J518 REMOVE OR INSTALL MODULE SECONDARY-CONTROL GUILLOTINES	100
J482 INSPECT MODULE PRESSURE-SOURCE BOTTLES	96
J478 INSPECT MODULE FLOTATION BAGS	96
J477 INSPECT MODULE FLEXIBLE LINEAR-SHAPED-CHARGES (FLSCs)	96
J474 INSPECT BILGE PUMPS	96
J505 REMOVE OR INSTALL MODULE FLSCs	96
J480 INSPECT MODULE IMPACT ATTENUATION PANELS	96
J501 REMOVE OR INSTALL MODULE COUNTERPOISES	96
J519 REMOVE OR INSTALL MODULE STABILIZATION BRAKE PARACHUTES	96
J511 REMOVE OR INSTALL MODULE NITROGEN FLOTATION BOTTLES	93
J503 REMOVE OR INSTALL MODULE EMERGENCY RADIO BEACONS	93
J476 INSPECT COUNTERPOISES	93
J509 REMOVE OR INSTALL MODULE INERTIA REEL ASSEMBLIES	93
J508 REMOVE OR INSTALL MODULE IMPACT ATTENUATOR BAGS	93
J469 ADJUST COUNTERPOISE LINKAGES	93
J507 REMOVE OR INSTALL MODULE IMPACT ATTENUATION PNEUMATIC REGULATORS	93
G295 REMOVE OR INSTALL SMDCs	89
G245 INSPECT SHIELDED MILD DETONATION CORDS (SMDCs)	89
E126 MAKE ENTRIES ON AFTO FORMS 781A (MAINTENANCE DISCREPANCY AND WORK DOCUMENT)	89
J492 PERFORM OPERATIONAL CHECKS OF MODULE COUNTERPOISES	89
J483 INSPECT MODULE RECOVERY PARACHUTE CATAPULTS	89
G258 PERFORM FUNCTIONAL CHECKS OF INERTIA REELS	85
J491 OHMS CHECK EMERGENCY RADIO BEACON ANTENNAS	78
J525 REPAIR BILGE PUMPS	78
J522 REMOVE OR INSTALL PRESSURE-SOURCE BOTTLE CARTRIDGES	74
G210 ARM OR DEARM EJECTION SYSTEMS	70

TABLE VII

GROUP ID NUMBER AND TITLE: ST0064, FIRST-LINE SUPERVISION  
 GROUP SIZE: 100 PERCENT OF SAMPLE: 18%  
 PREDOMINANT GRADE: E-6/E-7 AVERAGE TICF: 161 MONTHS  
 AVERAGE TAFMS: 170 MONTHS PERCENT SUPERVISING: 93%

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

REPRESENTATIVE TASKS	PERCENT MEMBERS PERFORMING
E126 MAKE ENTRIES ON AFTO FORMS 781A (MAINTENANCE DISCREPANCY AND WORK DOCUMENT)	96
E111 MAKE ENTRIES ON AF FORMS 2005 (ISSUE/TURN IN REQUEST)	93
E125 MAKE ENTRIES ON AFTO FORMS 350 (REP ITEM PROCESSING TAG)	93
A1 ADVISE MANAGEMENT PERSONNEL ON EGRESS SYSTEMS MAINTENANCE ACTIVITIES	92
E113 MAKE ENTRIES ON AF FORMS 2413 (SUPPLY CONTROL LOG)	92
B41 SUPERVISE AIRCREW EGRESS SYSTEMS MECHANICS (AFSC 45452)	91
B25 COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED PROBLEMS	91
C47 CONDUCT PERFORMANCE FEEDBACK WORKSHEET (PFW) SESSIONS	91
G299 TRANSPORT EGRESS SYSTEMS EXPLOSIVE COMPONENTS	91
B39 INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	90
G226 INSPECT EGRESS SHOP EXPLOSIVES STORAGE FACILITIES	90
G235 INSPECT EJECTION SEAT HEAD-RESTS	90
G267 PERFORM PRODUCTION INSPECTION DUTIES (RED X)	89
A6 DETERMINE WORK PRIORITIES	89
E140 MAKE ENTRIES ON TOOL INVENTORY FORMS	89
G210 ARM OR DEARM EJECTION SYSTEMS	89
E148 REVIEW CORE AUTOMATED MAINTENANCE SYSTEM (CAMS) PRODUCTS	88
G266 PERFORM PERIODIC INSPECTIONS ON EGRESS SYSTEMS	88
G227 INSPECT EGRESS SHOP SUPPORT EQUIPMENT	88
E149 REVIEW DUE-IN FROM MAINTENANCE LISTINGS (D23s)	88
G258 PERFORM FUNCTIONAL CHECKS OF INERTIA REELS	88
C69 WRITE EPRs	85
G253 PERFORM CORROSION CONTROL ON AIRCREW EGRESS SYSTEMS	84
G282 REMOVE OR INSTALL EJECTION SEAT CATAPULTS	84
C66 PERFORM SECTION OR SHOP SAFETY INSPECTIONS	82
G294 REMOVE OR INSTALL SEAT POSITIONING ACTUATORS	79
D75 CONDUCT OJT	76
G288 REMOVE OR INSTALL EJECTION SEAT LAP-BELTS	75
G281 REMOVE OR INSTALL EGRESS SYSTEMS LINES, TUBES, OR HOSES	74
G284 REMOVE OR INSTALL EJECTION SEAT DROGUE-CHUTES	71
G271 REMOVE OR INSTALL ACTUATORS OR BALLISTIC REMOVERS	62
H368 REMOVE OR INSTALL ACES II ENVIRONMENTAL SENSORS	59

TABLE VIII

GROUP ID NUMBER AND TITLE: ST0058, QUALITY ASSURANCE  
 GROUP SIZE: 6 PERCENT OF SAMPLE: 1%  
 PREDOMINANT GRADE: E-7 AVERAGE TICF: 178 MONTHS  
 AVERAGE TAFMS: 188 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

REPRESENTATIVE TASKS	PERCENT MEMBERS PERFORMING
G239 INSPECT EJECTION SEAT PARACHUTE OR DROGUE-CHUTE HARNESSSES, CASES, OR LINES	100
G236 INSPECT EJECTION SEAT LAP-BELTS	100
G231 INSPECT EJECTION SEAT DROGUE GUNS	100
G234 INSPECT EJECTION SEAT FRAMES	100
G233 INSPECT EJECTION SEAT EMERGENCY OXYGEN SYSTEMS	100
G235 INSPECT EJECTION SEAT HEAD-RESTS	100
G232 INSPECT EJECTION SEAT EMERGENCY HARNESS RELEASE MECHANISMS	100
H315 INSPECT ACES II SEAT SLINGS	100
G219 INSPECT BALLISTIC GAS HOSES	100
H308 INSPECT ACES II EJECTION-CONTROL SAFETY LEVERS	83
H307 INSPECT ACES II DROGUE SEVERANCE CUTTERS	83
H313 INSPECT ACES II RECOVERY PARACHUTES	83
G226 INSPECT EGRESS SHOP EXPLOSIVES STORAGE FACILITIES	83
G238 INSPECT EJECTION SEAT LINKAGES	83
H310 INSPECT ACES II EMERGENCY MANUAL CHUTE DEPLOYMENT SYSTEMS	83
H311 INSPECT ACES II ENVIRONMENTAL SENSORS	83
G227 INSPECT EGRESS SHOP EQUIPMENT	83
E165 WRITE CORRESPONDENCE	83
G240 INSPECT EJECTION SEAT POSITIONING ACTUATORS	83
G268 PERFORM QUALITY INSPECTIONS ON EGRESS SYSTEMS MAINTENANCE	67
C45 ANALYZE EGRESS SYSTEMS MAINTENANCE REPORTS	67
C50 EVALUATE INSPECTION REPORTS OR PROCEDURES	67
G225 PERFORM EGRESS SYSTEMS FINAL INSPECTIONS	67
E153 REVIEW GROUND SAFETY REPORTS	67
E152 REVIEW FLIGHT SAFETY REPORTS	67
E151 REVIEW EGRESS SHOP ACTIVITY REPORTS	67
C54 EVALUATE PROCEDURES FOR STORAGE, INVENTORY, OR INSPECTION OF TOOLS, EQUIPMENT, OR SUPPLIES	67
B24 CONDUCT STAFF MEETINGS OR BRIEFINGS	67
E156 REVIEW MATERIAL DEFICIENCY REPORTS (MDRs)	50
E162 REVIEW QUALITY DEFICIENCY REPORTS (QDRs)	50
C56 EVALUATE SAFETY PROGRAMS	50

TABLE IX

GROUP ID NUMBER AND TITLE: ST0027, TRAINING

GROUP SIZE: 6

PERCENT OF SAMPLE: 1%

PREDOMINANT GRADE: E-5

AVERAGE TICF: 83 MONTHS

AVERAGE TAFMS: 112 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

<u>REPRESENTATIVE TASKS</u>	<u>PERCENT MEMBERS PERFORMING</u>
D76 CONDUCT RESIDENT COURSE CLASSROOM TRAINING	83
D71 ADMINISTER TESTS	83
D80 DEMONSTRATE HOW TO LOCATE TECHNICAL INFORMATION	83
B25 COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED PROBLEMS	83
D79 COUNSEL TRAINEES ON TRAINING PROGRESS	83
D90 EVALUATE PROGRESS OF RESIDENT COURSE STUDENTS	67
D85 DEVELOP TRAINING AIDS	67
B39 INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	67
D97 WRITE TEST QUESTIONS	67
E107 MAINTAIN PUBLICATION OR TECHNICAL ORDER FILES	50
E106 MAINTAIN GENERAL SHOP DOCUMENTATION FILES	50
C48 CONDUCT SELF-INSPECTION PROGRAMS	50
E140 MAKE ENTRIES ON TOOL INVENTORY FORMS	50
E104 INITIATE OR REVIEW RECORDS OF INDIVIDUAL COUNSELING FORMS	50
E122 MAKE ENTRIES ON AFTO FORMS 244 (INDUSTRIAL/SUPPORT EQUIPMENT RECORD)	50
D84 DEVELOP RESIDENT COURSE OR CAREER DEVELOPMENT COURSE (CDC) CURRICULUM MATERIALS	50
E113 MAKE ENTRIES ON AF FORMS 2413 (SUPPLY CONTROL LOG)	50
D92 MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	33
B28 DIRECT MAINTENANCE OF PUBLICATION OR TECHNICAL ORDER FILES	33
B38 INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	33
A13 DRAFT CHANGES TO PUBLICATION	33
D96 SELECT INDIVIDUALS FOR SPECIALIZED TRAINING	33
B24 CONDUCT STAFF MEETINGS OR BRIEFINGS	33



**APPENDIX B**  
**TABLES DISPLAYING DATA PERTAINING TO**  
**SPECIFIC BACKGROUND QUESTIONS**

TABLE B1

OTHER AFSCs OR TEAMS AUGMENTED WHILE DEPLOYED FOR DESERT SHIELD OR DESERT STORM  
(PERCENT MEMBERS RESPONDING)

OTHER AFSCs OR TEAMS	1ST JOB (N=47)	1ST ENL (N=97)	DAFSC 45432 (N=37)	DAFSC 45452 (N=265)	DAFSC 45472 (N=255)	TOTAL SAMPLE (N=557)
NONE (NOT DEPLOYED)	85	79	86	61	68	66
NONE (DEPLOYED, BUT DID NOT AUGMENT)	13	9	11	14	13	13
TACTICAL AIRCRAFT MAINTENANCE, AFSC 452X4	0	3	0	7	5	5
STRATEGIC AIRCRAFT MAINTENANCE, AFSC 457X0	0	0	0	0	2	1
AEROSPACE PROPULSION, AFSC 454X0	0	2	0	3	2	2
AEROSPACE GROUND EQUIPMENT, AFSC 454X1	0	1	0	5	2	3
AIRCRAFT FUEL SYSTEMS, AFSC 454X3	0	5	0	11	7	8
AIRCRAFT PNEUDRAULICS SYSTEMS, AFSC 454X4	0	2	0	4	4	4
FABRICATION AND PARACHUTES, AFSC 458X3	0	1	0	6	3	4
AIRCRAFT ARMAMENT SYSTEMS, AFSC 462X0	0	2	0	2	1	1
EXPLOSIVE ORDNANCE DISPOSAL, AFSC 464X0	0	0	0	0	0	0
MUNITIONS OPERATIONS, AFSC 465X0	0	1	0	1	0	1
AIRCRAFT TOW TEAM	0	3	0	9	7	7
AIRCRAFT FUELING OR DEFUELING TEAM	0	5	0	7	2	2
AIRCRAFT BATTLE DAMAGE REPAIR TEAM	0	0	0	3	3	3
CRASH RECOVERY TEAM	0	1	0	4	2	3
END-OF-RUNWAY INSPECTION CREW	0	3	0	7	7	6
LAUNCH OR RECOVERY CREW	0	5	0	14	9	11

NOTE: Multiple responses possible

TABLE B2

PERCENTAGE OF TIME SPENT AUGMENTING TEAMS OR OTHER AFSCs  
DURING DESERT SHIELD OR DESERT STORM  
(PERCENT MEMBERS RESPONDING)

TIME SPENT AUGMENTING TEAMS OR OTHER AFSCs	1ST JOB (N=47)	1ST ENL (N=97)	DAFSC 45432 (N=37)	DAFSC 45452 (N=265)	DAFSC 45472 (N=255)	TOTAL SAMPLE (N=557)
NONE (NOT DEPLOYED)	81	77	84	60	66	64
NONE (DEPLOYED, BUT DID NOT AUGMENT)	13	10	11	15	14	14
LESS THAN 10 PERCENT	0	3	0	5	4	4
AT LEAST 10 PERCENT BUT LESS THAN 20	0	2	0	4	2	3
AT LEAST 20 PERCENT BUT LESS THAN 30	0	1	0	4	3	3
AT LEAST 30 PERCENT BUT LESS THAN 40	0	1	0	2	2	2
AT LEAST 40 PERCENT BUT LESS THAN 50	0	0	0	3	2	3
50 PERCENT OR MORE	0	2	0	5	4	4
NO RESPONSE	6	4	5	2	3	3

TABLE B3

SATISFACTION WITH TRAINING RECEIVED FOR PERFORMANCE OF  
GENERAL AIRCRAFT MAINTENANCE TASKS  
(PERCENT MEMBERS RESPONDING)

SATISFACTION RESPONSE	1ST JOB (N=47)	1ST ENL (N=97)	DAFSC 45432 (N=37)	DAFSC 45452 (N=265)	DAFSC 45472 (N=255)	TOTAL SAMPLE (N=557)
DO NOT PERFORM GENERAL AIRCRAFT MAINTENANCE TASKS	40	40	41	37	47	42
VERY DISSATISFIED	2	4	0	3	5	4
SLIGHTLY DISSATISFIED	2	2	3	3	4	3
NEITHER SATISFIED OR DISSATISFIED	2	7	3	12	13	12
SLIGHTLY SATISFIED	23	22	27	20	13	17
VERY SATISFIED	28	24	24	24	17	21
NO RESPONSE	3	1	2	1	1	1

TABLE B4

LENGTH OF TIME REQUIRED TO RECEIVE FTD CERTIFICATION TRAINING  
ON AIRCRAFT CURRENTLY MAINTAINED  
(PERCENT MEMBERS RESPONDING)

FIELD TRAINING DETACHMENT (FTD) CERTIFICATION TRAINING TIME RESPONSE	1ST JOB (N=47)	1ST ENL (N=97)	DAFSC 45432 (N=37)	DAFSC 45452 (N=265)	DAFSC 45472 (N=255)	TOTAL SAMPLE (N=557)
HAVE NOT YET RECEIVED FTD CERTIFICATION TRAINING	6	6	7	7	7	7
LESS THAN 3 MONTHS	49	48	49	54	57	55
AT LEAST 3 MONTHS BUT LESS THAN 6	26	26	22	25	20	22
AT LEAST 6 MONTHS BUT LESS THAN 9	11	13	14	8	8	9
AT LEAST 9 MONTHS BUT LESS THAN 12	6	4	5	3	2	2
12 MONTHS OR MORE	2	1	3	3	5	4
NO RESPONSE	0	2	0	0	1	1